

HANDLING PRECAUTIONS



CAUTION

High potential static charge may cause damage to the integrated circuits on the board. Before handling any mainboard outside of its protective packaging, ensure that there is no static electric charge in your body.

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

There are some basic precautions when handling the motherboard or other computer components:

- ◆ Keep the board in its anti-static bag until you are ready to install it.
- ◆ Protect you board form static electricity by well grounding of you body and the equipment during the installation, such as wearing a grounded wrist strap.
- ◆ Always handle the board by its edges.
- ◆ Do not touch with the components on the boards, add-on cards and modules and with the “gold finger” connectors plugged into the expansion slot. It is best to handle system components by their mounting bracket.
- ◆ Ensure the system power is completely turn-off before doing any installation work.

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Features of the Board

OVERVIEW

Congratulations on purchasing the highest performance PENTIUM II® motherboard. With the advanced technologies available today, this motherboard is designed to run Intel's PENTIUM II® processors at speeds of 233 MHz and 266 MHz or higher. The on-board system memory consists of SIMM and DIMM which gives you the most flexibility for system design. It supports up to 256 MB of DRAM using standard 72-pin SIMM sockets that accept either Fast Page Mode (FPM), Extended Data Out (EDO) and Burst EDO memory. In addition, two unbuffered, 3.3 Volts, 168-pin DIMM sockets are also included for 16 to 256MB EDO memory support. A Slot 1 connector allows an easy upgrade path for the future Slot 1 processors.

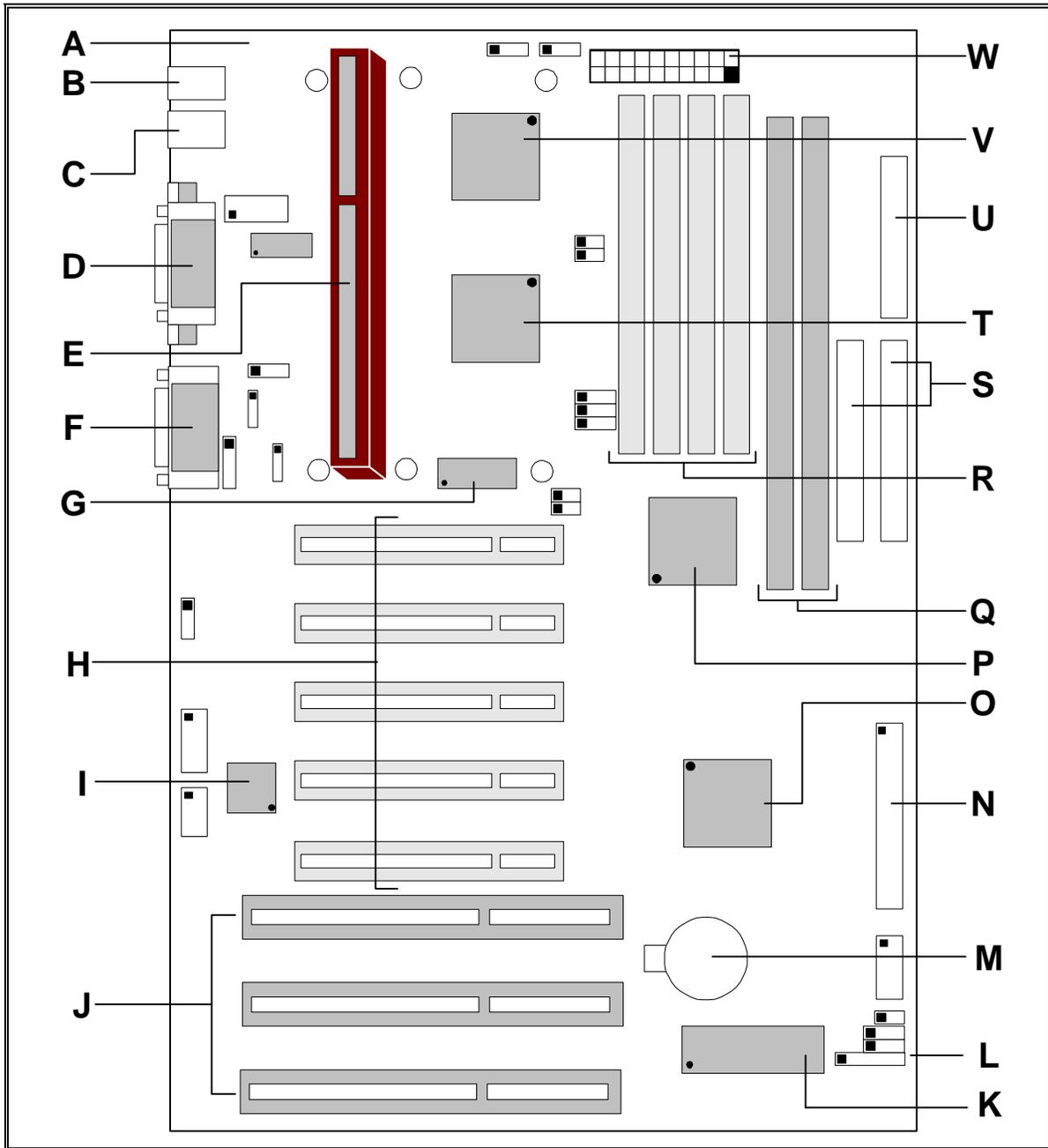
This motherboard maximum utilizes Intel's 82440FX PCI chipset. The Intel 82371SB PCI/ISA IDE Xccelerator (PIIX3) provides an integrated Bus Mastering IDE controller with two high performance IDE interfaces for up to four IDE devices (such as hard drives or CD-ROM). The integrated super I/O controller integrates the standard PC I/O functions: floppy interface, two FIFO serial ports, one EPP/ECP capable parallel port, and support for an IrDA and Consumer Infra Red compatible interface.

The five on-board 32-bit PCI local bus slots allows a higher bandwidth data path , which serves as a super highway, for intensive data-movement such as video or networking. The BIOS support PCI bridge user configuration, which allows for further expansion of the system with PCI peripherals. Up to three 16-bit ISA slots allow this board backward hardware compatible with the older expansion card. A total of seven expansion slots may be populated with full length add-in cards, since one PCI and ISA slot share the same chassis I/O panel.

FEATURES SUMMARY

This motherboard comes with following features:

- Supports Intel PENTIUM II® Processor 233/266 MHz with automatically voltage adjustment
- Intel 440FX PCIset, including a 82441FX PCI/Memory controller (PMC), 82442FX data bus Accelerator (DBX) and 82371SB PCI ISA IDE Accelerator (PIIX3).
- AMI PnP BIOS with support for power management, enhanced IDE/SCSI features and desktop management interface (DMI) which allows higher level of hardware compatibility.
- Flash BIOS for a more easy upgrade path
- Up to 4 each 72-pin SIMM sockets, supports up to 256 MB DRAM in two banks, which included FPM, EDO and BEDO DRAM types
- Two high speed unbuffered 168-pin DIMM sockets
- Three 16-bit ISA expansion slots and five 32-bit PCI expansion slots.
- Integrated two PCI bus master IDE controller with two on-board connectors supports up to four IDE devices such as Hard Disk, CD-ROM or Tape Backup drives.
- Integrated super I/O chipset featuring one floppy disk controller, two 16550 UART compatible serial ports, one high speed EPP/ECP capable parallel port, one Infra Red port.
- On board ViRBA16 bit sound processor



Parts Location on the Motherboard

QUICK REFERENCE OF YOUR MOTHERBOARD

A	ATX Form Factor Motherboard	M	3V Lithium Battery
B	PS/2 Keyboard / Mouse Connectors	N	Front Panel Function Connectors
C	Universal Serial Bus (USB) Connectors	O	Integrated I/O Controller
D	External I/O Connectors	P	Intel SB82440FX Chipset
E	PENTIUM II CPU Card Slot	Q	3.3v DIMM Sockets
F	Audio Connector	R	SIMM Sockets
G	System Clock Synthesizer	S	IDE device connector
H	PCI Connector	T	Intel SB82440FX Chipset
I	Sound Processor	U	Floppy Drive Connector
J	ISA Add-in Board Connectors	V	Intel SB82441FX (PMC)
K	Flash BIOS	W	ATX Power Supply Connector
L	Infra-Red (IR) Connector		

[A] ATX Form Factor Motherboard

ATX is an evolution of the popular Baby-AT form-factor defined to address four major areas of improvement over today's predominant form-factors: enhanced ease-of-use, better support for current and future I/O and better support for current and future processor technology.

This motherboard is designed to fit into a standard ATX form factor chassis in that the outer dimensions are 12" x 9.6" (30.48 cm x 24.38 cm). The location of I/O connectors, CPU socket, PCI and ISA slots, and mounting holes are also strictly based on the ATX specification.

By simply rotating the board through 90 degrees (with respect to baby -AT form factor) within the chassis, the end-user gains a great deal in ease-of-use and improved functionality.

- With the processor relocated, all expansion slots can be full-length.
- Since the processor is not located between or under the add-in cards, a processor upgrade can now be performed without removing the installed cards.
- The SIMM connectors can be relocated away from the expansion bays and slots, increasing ease-of-use by giving easy access to the user for memory upgrades, and increasing the total number of available full length slots.
- The use of only one fan within the system reduces noise levels.
- More I/O is integrated onto the baseboard, improving reliability and reducing the number of cables.
- Disk I/O connectors are located closer to the peripheral bays, reducing cable lengths. This reduces the clutter in the chassis and allows the use of faster hard disk drives.
- With increased ease of use, and a reduction in cable complexity, the technical support burden is lowered.

[B] PS/2 Keyboard / Mouse Connectors

PS/2 device, like some PS/2 keyboard and mouse, all have a standard 6-pin round shape connector. The benefit of PS/2 device is one of the serial ports may be free for other serial devices such as writing tablets. On this motherboard, there are two on-board PS/2 connectors, one for keyboard and one for mouse, which saves your money to buy any optional PS/2 connector module. If you are using a PS/2 mouse or keyboard, you can simply plug into the corresponding connector without any jumper setting.

[C] USB Connectors

Universal Serial Bus (USB) is a new interface standard for any I/O device "Outside the Box". USB makes your peripherals have a real plug and play (PnP) capabilities with up to 12Mb/sec data speed. In the coming soon, any external device connected to your computer will be standardized into USB standard which all have a special 4-pin rectangle shape connector. Therefore, with the Intel chipset, this motherboard builds two USB connectors on-board for your future investment.

[D] External I/O Connectors

Based on the ATX standard, two 9-pin serial ports and one 25-pin parallel port are now built on the motherboard back panel, too! This design makes your motherboard's installation more easily. The parallel port can be BIOS configured into standard (SPP) mode, Enhanced Parallel Port (EPP) mode, and a high speed Extended Capabilities Port (ECP) compatible mode. EPP Mode requires a driver provided by the peripheral manufacturer in order to operate correctly.

[E] PENTIUM II® Slot 1

The slot 1 is a 242-pin slot design for PENTIUM II®, single edge contact cartridge, along with a programmable voltage regulator for the CPU core. It provides users with a performance upgrade path to PENTIUM II® OverDrive technology. The motherboard built-in a switching voltage regulator which supports from 2.1 V to 3.5 V PENTIUM II® processors running at 233, 266 MHz. The regulator makes use of the VID capabilities to automatically adjust its voltage output to match that of the installed processor, which eliminated the traditional jumper setting.

**PENTIUM II® PROCESSOR CARD**

The PENTIUM II⁰ processor integrates second level cache and cache controller that were previously implemented on the motherboard. The internal non-blocking L2 cache on the 233, 266 MHz processors card is 512k KB cache.

The PENTIUM II® processor card maintains full backward compatibility with the 8086, 80286, Intel386™, Intel486™ and Pentium® processors. It also has a numeric coprocessor that significantly increases the speed of floating point operations, while maintaining backward compatibility with the i486DX math coprocessor and complying with ANSI/IEEE standard 754-1985.

**PENTIUM II® PROCESSOR CARD**

An approved PENTIUM II heatsink is necessary for proper thermal dissipation in an ATX compliant chassis. The processor/heatsink assembly must be securely fastened to the CPU cartridge..

[F] Audio Connectors

The board comes with on board sound processor and the Audio Connector allow you to attach other devices to your board. The connectors are three one-hole connecting interfaces. Jacks on the rear panel of your board. It also allows you to attach a joystick or MIDI devices through the 15 pin D-SUB connector.

[G] System Clock Synthesizer

This system clock chip provides all the clock signals for the system, such as CPU clock and PCI bus clock.

[H] PCI Add-in Board Connectors

This motherboard provides five 32 bit PCI slots with up to 133MB/sec burst data transfer rate.

[I] ViRBA Sound Processor

The Creative ViRBA VLSI chip is a high performance stereo codec 16-bit device. It is downward compatible to Creative Sound Blaster standard, PC sound standard, where thousands of software on the market compatible to this standard.

[J] ISA Add-in Board Connectors

This motherboard provides three 16 bit ISA slots which allows backward hardware compatibility.

[K] Real Time Clock

The integrated Real Time Clock (RTC) provides a time of day clock for the system board, a 100-year calendar with alarm features, and a century register. The internal nonvolatile CMOS RAM can operate over 10 years in the absence of power. The RTC allows user to adjust the time, calendar, and alarm through the BIOS setup. For more detailed information, please refer to the Chapter of BIOS Setup.

[J] Flash BIOS

The flash BIOS allows user have more flexibility to upgrade their motherboard. The flash BIOS can be programmed by software easily. For the latest BIOS upgrade information, please feel free to visit our web site: <http://www.zida.com>.

[L] Infra-Red (IR) Support

A 5-pin interface on the front panel I/O connector is provided to allow connection to a Hewlett Packard HSDSL-1000 compatible Infra-red (IrDA) transmitter/receiver. Once the module is connected to the front panel I/O header, Serial port 2 can be re-directed to the IrDA module. When configured for IrDA, the user can transfer files to or from portable devices such as laptops, PDA's and printers using application software such as LapLink. The IrDA specification provides for data transfers at 115kbps from a distance of 1 meter. Support for Consumer Infra Red (ASK-IR) is also included, please refer to your IR equipment for more detailed information.

[M] 3V Lithium Battery

An on-board battery holder is used to hold a 3 Volts CR-2032 Lithium battery which makes the battery's replacement more convenient. This battery is used to supply power for the RTC CMOS RAM in order to save your system setting and date/time counting during system power-off. In general, the battery's life-time is about 5 years. If you see a "BIOS checksum error" message happened while system turn-on, it may be caused by the battery low. You can try to fix it by simply replaced the battery.

[N] Front Panel Function Connectors

The integrated Real Time Clock (RTC) provides a time of day clock for the system board, a 100-year calendar with alarm features, and a century register. The internal nonvolatile CMOS RAM can operate over 10 years in the absence of power. The RTC allows user to adjust the time, calendar, and alarm through the BIOS setup. For more detailed information, please refer to the Chapter of BIOS Setup.

[O] Integrated I/O Controller

On the motherboard, serial ports, parallel port and floppy drive is integrated into a single chip. The I/O port allows you to configure through the BIOS setup. This integrated I/O chip provides:

- Plug-and-Play, Version 1.0a compatible.
- Built In RTC devices
- Supports two 360K, 720K, 1.2M, 1.44, 2.88M floppy disk drives
- One multi-mode high performance parallel port which can be BIOS configured as standard (SPP) mode, enhanced (EPP) mode, high speed (ECP) mode.
- Supports two 16C550 compatible enhanced serial ports.

Supports IrDA or ASKIR infra-red interface.

[P] 82371SB PCI/ISA IDE Xccelerator (PIIX3)

The Intel 82371SB is a 208-pin QFP package IC which provides the following features:

- Interface between the PCI local bus and ISA bus.
- Supports for 2 Universal Serial Bus (USB) ports.
- Integrated fast IDE interface which supports up to 4 devices. With separated Master/Slave mode support, it provides data transfer rate up to 16 MB/sec in PIO Mode 4. In addition, it also integrated a 8 x 32-bit buffer for Bus Master IDE PCI burst transfers which further enhanced the system performance.
- Enhanced DMA controller with Fast Type-F DMA
- Counters/Timers which provides advanced power management with programmable system management interrupt (SMI).

[Q] DIMM Sockets

There are two Unbuffered, 3.3 Volts, DIMM sockets on-board provides more flexibility for your system memory upgrade.

[R] SIMM Sockets

This motherboard provides four 72-pin SIMM sockets. The minimum memory size is 8 MB by using two 1M x 32 SIMM modules and maximum memory size is 256 MB by four 16M x 32 SIMM modules. Memory timing can be configured through the BIOS setup, please refer to the chapter of BIOS setup. They support both Fast Page Mode, Extended Date Output (EDO) and Burst EDO SIMM RAM. Both parity and non-parity memory are supported as well as ECC.

The four sockets are arranged into two banks, Bank 0 and Bank 1, of two sockets each. Each bank provides a 64/72-bit wide data path. Both SIMMs modules in a bank must be of the same memory size and type. There are no jumper settings required for the memory size or type, which is automatically detected by the system BIOS.


NOTICE

Due to the electrical loading characteristics, 64 MB SIMMs using the 16 MB technology are not supported by this motherboard. 64 MB SIMMs using 64 MB technology will be supported by the motherboard when they become available, depending on the characteristics of the memory module.


EDO DRAM

Extended Data Out (or Hyper Page) DRAM is designed to improve the DRAM read performance. EDO DRAM holds the memory data valid until the next memory access cycle, unlike standard fast page mode DRAM that tri-states the memory data when the pre-charge cycle occurs, prior to the next memory access cycle. EDO DRAM timings are X-2-2-2 compared to FPM timings of X-3-3-3.


BEDO DRAM

Burst Extended Data Out (BEDO) is basically an EDO DRAM that contains a pipeline stage and a 2-bit burst counter. The difference between BEDO and EDO is that all cycles, READ and WRITE, occur in four-cycle bursts. Longer bursts can be achieved so far as the accesses remain in the same page. EDO DRAM timings are X-1-1-1 compared to FPM timings of X-3-3-3.


PARITY/ECC DRAM

Memory error checking and correction is supported via parity or ECC SIMMs. Parity or ECC SIMMs are automatically detected. However, the user must enter Setup to configure the SIMMs for either Parity or ECC operation. Parity memory will detect single bit errors. ECC memory will detect double bit errors and correct single bit errors. Errors may be generated by a defective memory module, different speeds of memory modules, or DMA or memory conflicts.

[S] IDE Connectors

This motherboard have two independent high performance bus-mastering PCI IDE interfaces capable of supporting up to Mode 4 devices. The system BIOS supports automatic detection of the IDE device data transfer rate and translation between different kinds of device mode such as Logical Block Addressing (LBA) and Extended Cylinder Sector Head (ECSH) translation modes and ATAPI (e.g., CD-ROM) devices on both IDE interfaces.

In a true multi-tasking operating systems like Windows[®] 95 and Windows[®] NT, the IDE interface can operate as a PCI bus master capable of supporting PIO Mode 4 devices with transfer rates of up to 16 MB/sec.

[T] 82441FX PCI Bridge and Memory Controller (PMC)

The 82441FX comes in a 208 pin QFP package and provides the following features:

- CPU interface control up to 66MHz with true 32-bit addressing.
- Integrated 64/72-bit DRAM controller, supporting from 8 MB to 256 MB main memory.
- Fully synchronous PCI bus interface with 25/30/33 MHz bandwidth.
- Write data Buffering and supports PENTIUM II -to-PCI burst writes.

[U] Floppy Drive Connector

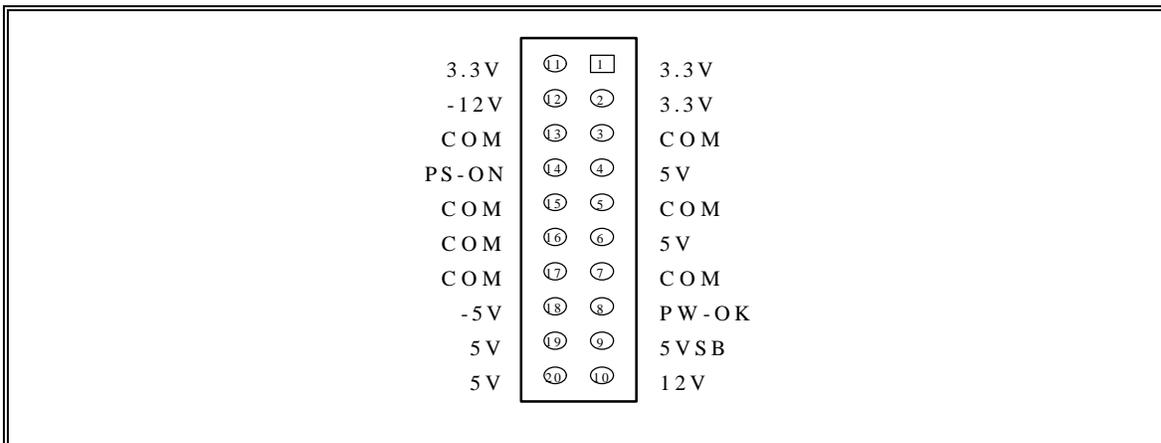
A 34-pin connector on-board allows connection to two 360K, 720K, 1.2M, 1.44, 2.88M floppy disk drives.

[V] 82442FX Data Bus Accelerator (DBX)

The DBX connects to the 64 bit PENTIUM II® data bus, the 64/72 bit memory data bus and the 16 bit 82441FX PCI Bridge and Memory Controller (PMC) private data bus. The DBX works in parallel with the PMC to provide a high performance memory subsystem for PENTIUM II® based systems. The DBX comes in a 208 pin PQF package.

[W] ATX Power Supply Connector

Based on the ATX specification, one 20-pin power connector covers all the required power sources, ±5V, ±12V and ±3.3V, with soft-touch button power on/off features. This connector reduces the installation time and minimizes the chance of defects caused by incorrect connection.



ATX Power connector pin out

MOTHERBOARD INSTALLATION

Installation Precautions

During installation and initial test, use caution to avoid personal injury and damage to wiring due to sharp pins on connectors and printed circuit assemblies, rough chassis edges and corners, and hot components. Adhere to warnings and limitations regarding accessibility into areas designated only for authorized technical personnel.

A Quick Introduction

To install and operate your new motherboard, you must follow the steps below:

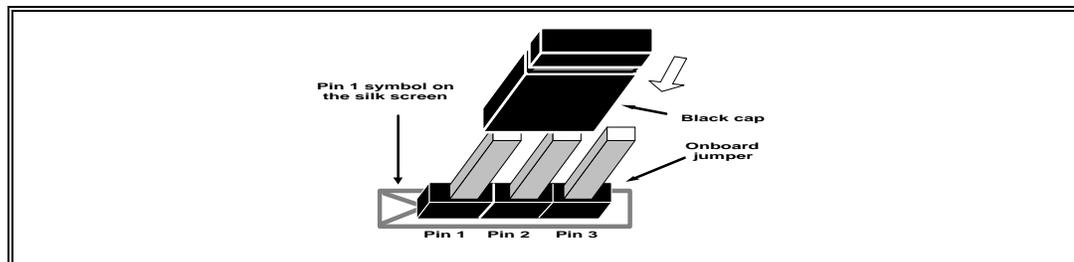
1. Set Jumpers on the motherboard
2. Install the CPU with cooling fan
3. Install RAM modules
4. Connect cables, wires and power connector
5. Install expansion cards

Jumpers Setting

There are several user-adjustable jumpers on the board which allow you to configure your system to match your requirements. This chapter contains the information on the various jumpers settings and connector on your motherboard.

Jumpers

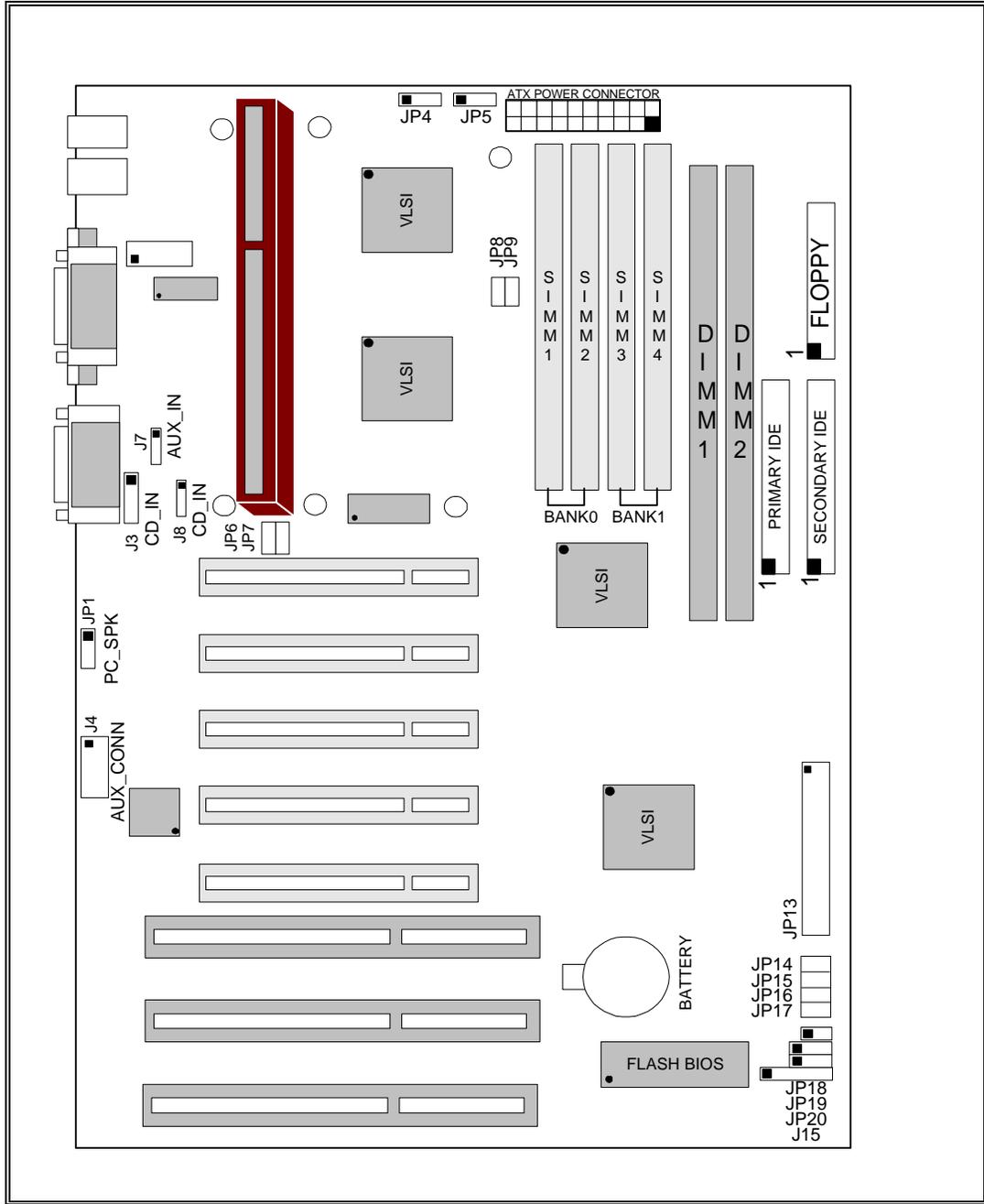
Jumpers are used to make several hardware settings on the motherboard. From the “Map of the Motherboard” shown above, you can identify the location of the jumpers. There are two kinds of jumper on-board, 2-pin jumper and 3-pin jumper. On the symbol of jumper like “”, “” inside stands for pin 1. To set a jumper, a black cap containing metal contacts is placed across the jumper pin/s according to your required configuration. The jumper settings will also be described numerically such as [open] for open, [short] for short, [1-2] for connect pins 1&2, [2-3] for connects pins 2&3 respectively.



CAUTION

Users are not recommended to change any jumpers in it's default setting listed on this User's Guide. Changing the jumper settings improperly may affect the system performance.

The following figure is a completed "Map of the Onboard Jumpers" for the onboard jumpers (JP).



Map of the Onboard Jumpers

CPU Speed Selection

- JP6-JP9 for external bus frequency
- JP14-JP17 for frequency ratio setting

The table below shows the jumper setting for the CPU based on its internal clock speed.

Internal CPU speed (MHz)	External Bus	JP6	JP7	JP8	JP9	Frequency Ratio	JP14	JP15	JP16	JP17
233	66MHz	[close]	[open]	[close]	[open]	3.5x	[open]	[open]	[close]	[close]
266	66MHz	[close]	[open]	[close]	[open]	4x	[close]	[close]	[open]	[close]

Voltage Regulator Output Selection

As mentioned before, the on-board regulator makes use of the VID capabilities to automatically adjust its voltage output to match that of the installed processor. Therefore, jumper setting is no longer required for this item on PENTIUM II CPU.

CMOS Reset

If you want to reset the CMOS data, you need to turn off the main power switch of the system power supply and remove the on board lithium battery and reinstall it. After the CMOS reset, all the system BIOS configuration will lose at all and please re-enter the CMOS setup screen to setup the system again.

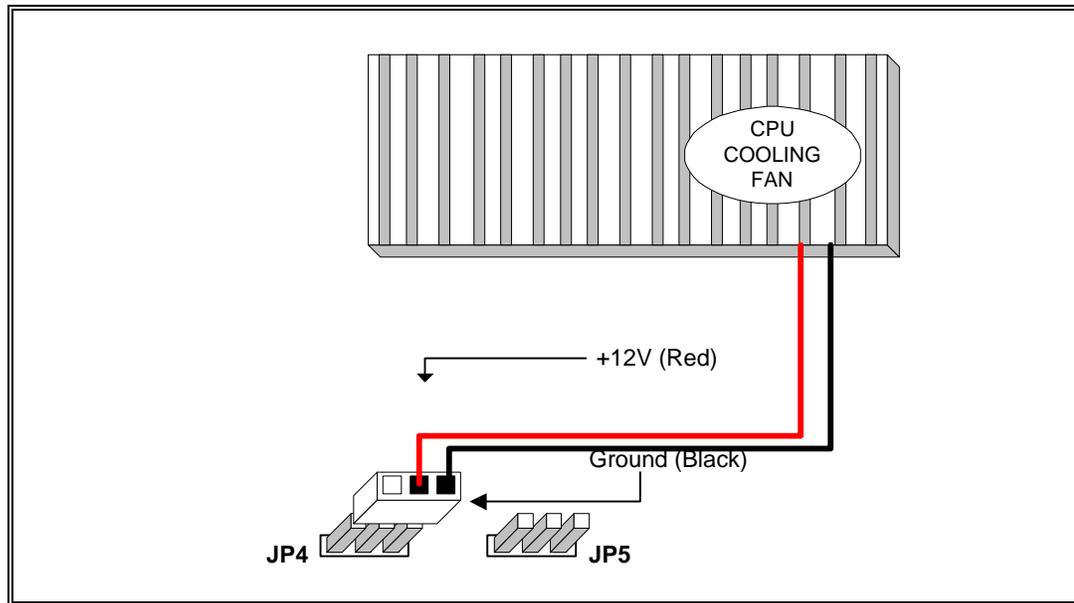
Other Jumpers

JP19 and JP20 are for Flash memory type select. The normal setting for all Flash ROM is 1-2. JP18 is for factory testing only. Normally, this jumper should left open.

Jumper	Default Setting
JP18	open
JP19, JP20	1-2

CPU CARD INSTALLATION

The motherboard provides a 242-pin CPU card slot. The CPU card should have a fan attached to it to prevent overheating. If this is not the case then purchase a fan before you turn-on the system. There are two CPU fan power connector, JP4 and JP5, on-board.



CPU Cooling Fan Installation Diagram

! CAUTION

Without a effective cooling fan, the CPU can overheat and cause damage to both the CPU and the motherboard.

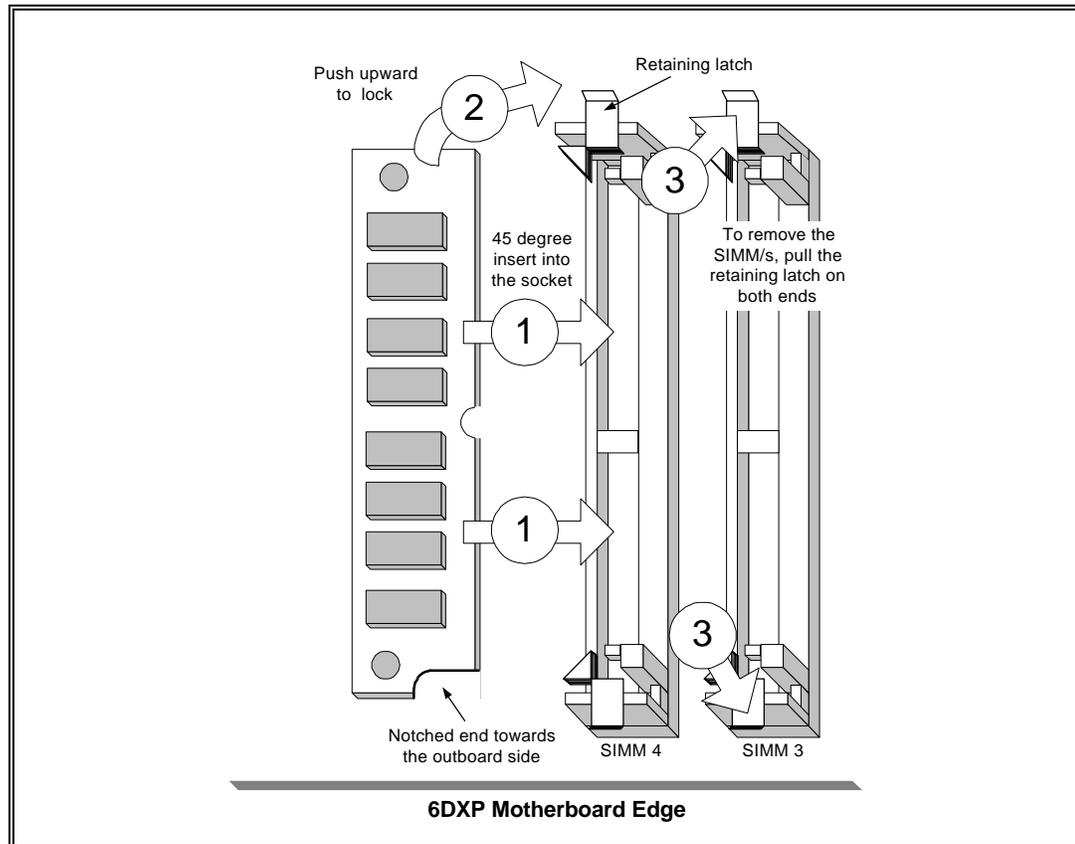
CPU Cooling fan Connector

JP4 and JP5 provide the +12 Volts d.c. for you CPU cooling fan

JP4 and JP5 Pin	Signal Name
1	Ground
2	+12V
3	Ground

INSTALLING SYSTEM MEMORY (RAM)

The motherboard supports four 72-pin SIMMs (Single-In-Line Memory Modules) from 8MB up to 256MB memory size and two 168-pin DIMM. The four 72-pin SIMMs sockets are divided into two memory banks, Bank 0 and Bank 1, and each bank has two SIMM sockets which accept either FPM or EDO DRAM module.

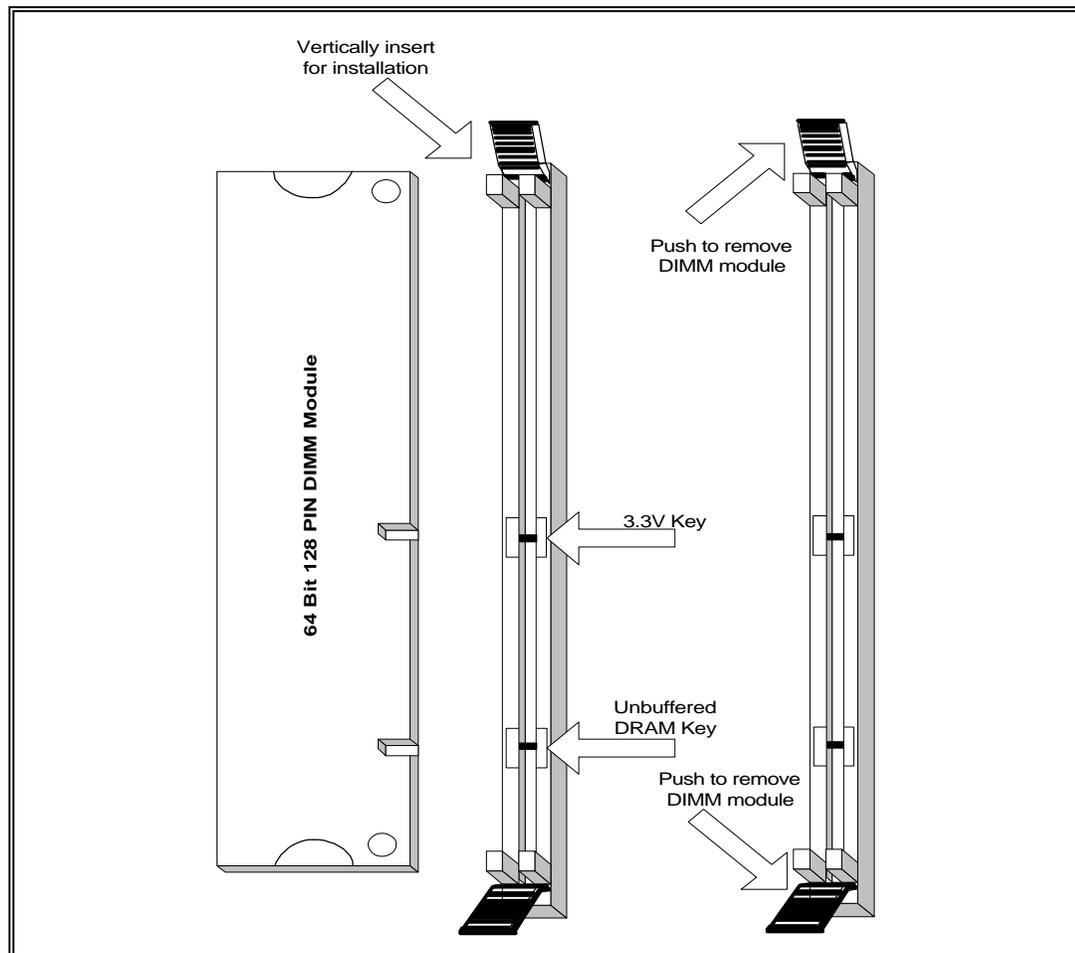


SIMM Module Installation Diagram



CAUTION

Each bank must have the same size and type of memory module installed in pairs..



128-Pin DIMM Module Installation Diagram

Expansion Cards Installation

At the most of beginning, you must read your expansion card documentation on any hardware and software settings that may be required. The installation procedures are summarized as below:

1. Read the User's Guide/Manual of your expansion card.
2. If necessary, set any jumpers on your expansion card.
3. Power-off the system and then disconnected the power cord.
4. Remove your computer's cover.
5. Remove the metal bracket from one of the empty slot, ISA or PCI, corresponding to the type of expansion card.
6. Carefully align the card's connectors and press firmly, make sure at the connection is good.
7. Secure the card on the slot.
8. Replace the computer's cover.
9. Setup the BIOS configuration if necessary.
10. Install the required software drivers for your expansion card.

! CAUTION

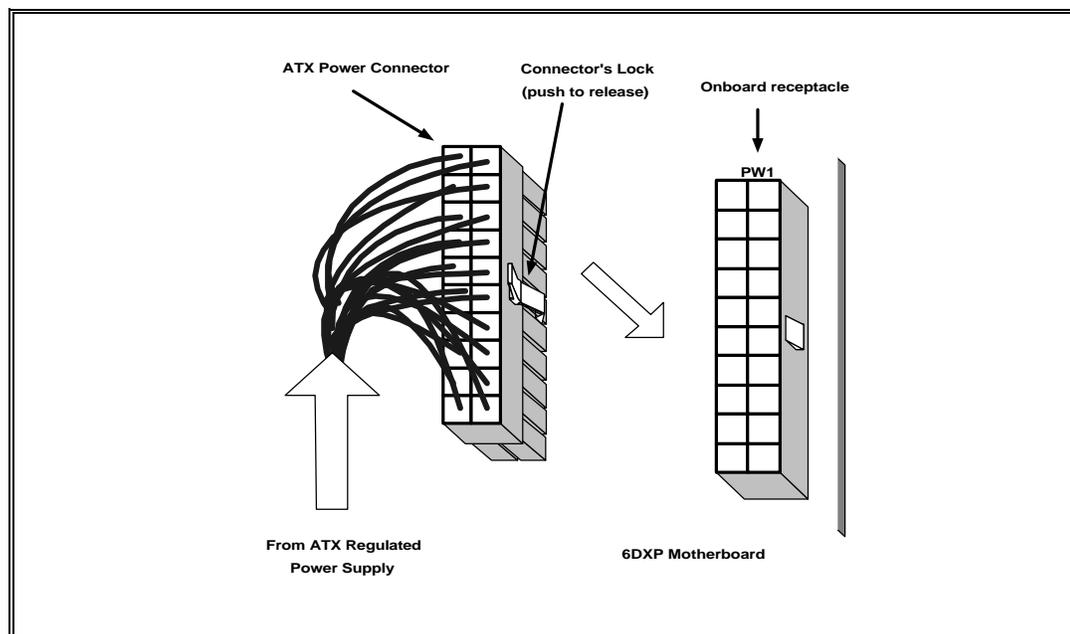
Before adding or removing any expansion card or other system components, make sure that you unplug your system power supply. Failure to do so may cause damage of your motherboard and expansion cards.

Connecting External Connector

Power Connector

PW1, single 20-pin connector incorporates standard $\pm 5V$ and $\pm 12V$, optional 3.3V and soft-power signals. With a power supply supports remote power on/off, the motherboard can turn off the system power through software control, such as the shutdown in Windows 95 Start menu. The system BIOS will turn the system power off when it receives the proper APM command from the OS. APM must be enabled in the system BIOS and OS in order for the soft-off feature to work correctly.

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PW_ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGOOD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V



ATX Power Connector Installation

Floppy Drive Connector

This 34-pin connector supports the provided floppy drive ribbon cable. After connecting the single end to the on-board “FLOPPY” connector, connect the remaining plugs on the other end to the floppy drives correspondingly.

IDE Connector

The two on-board IDE connectors supports the provided 40-pin IDE hard disk ribbon cable. After connecting the single end to the board, connect the two remaining plugs at the other end of your hard disk(s). If you install two hard disks, you must configure the two drives by setting its jumpers according to the documentation of your hard disk. Also, you may connect the two hard disks to be both Masters using one ribbon cable on the primary IDE connector and one on the secondary IDE connector.



NOTICE

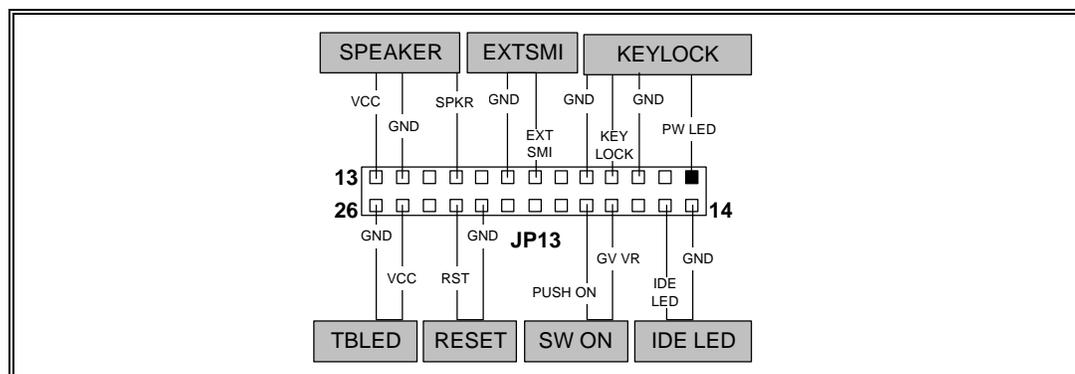
For the flat ribbon cable connection, please make sure that the pin 1 of the ribbon cable (the red wire side of the cable) is correctly connected to the on-board connector’s pin 1 as shown on the “Map of the Motherboard”.

Front Panel Function Connector

All the front panel indicator , speaker, and switch functions are grouped into a on-board 26-pin connector, JP20. Front panel features supported include:

- System Reset, RESET
- Power LED, form KEYLOCK
- Hard Drive activity LED, IDE LED
- System Speaker, SPEAKER
- Soft-touch button power on/off, SW ON
- Turbo LED, TBLED
- External power saving control, EXTSMI (optional)

The connector pin out are described as the figure below:



The Onboard Function Connector Pin Out

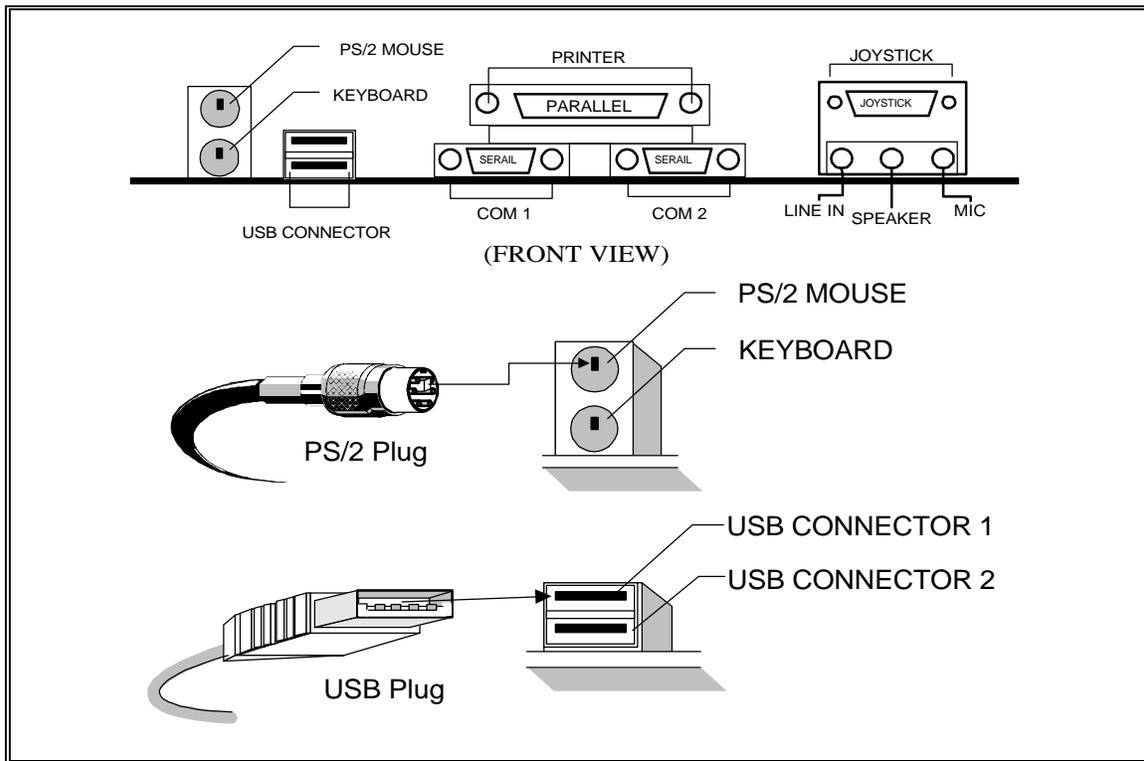
Infra-Red connector

Serial port 2 can be configured to support an IrDA module via a 5 pin header connector. Once configured for IrDA, the user can transfer files to or from portable devices such as laptops, PDA's and printers using application software such as LapLink. The IrDA specification provides for data transfers at 115 Kbps from a distance of 1 meter. Consumer IR is also supported by the same connector.

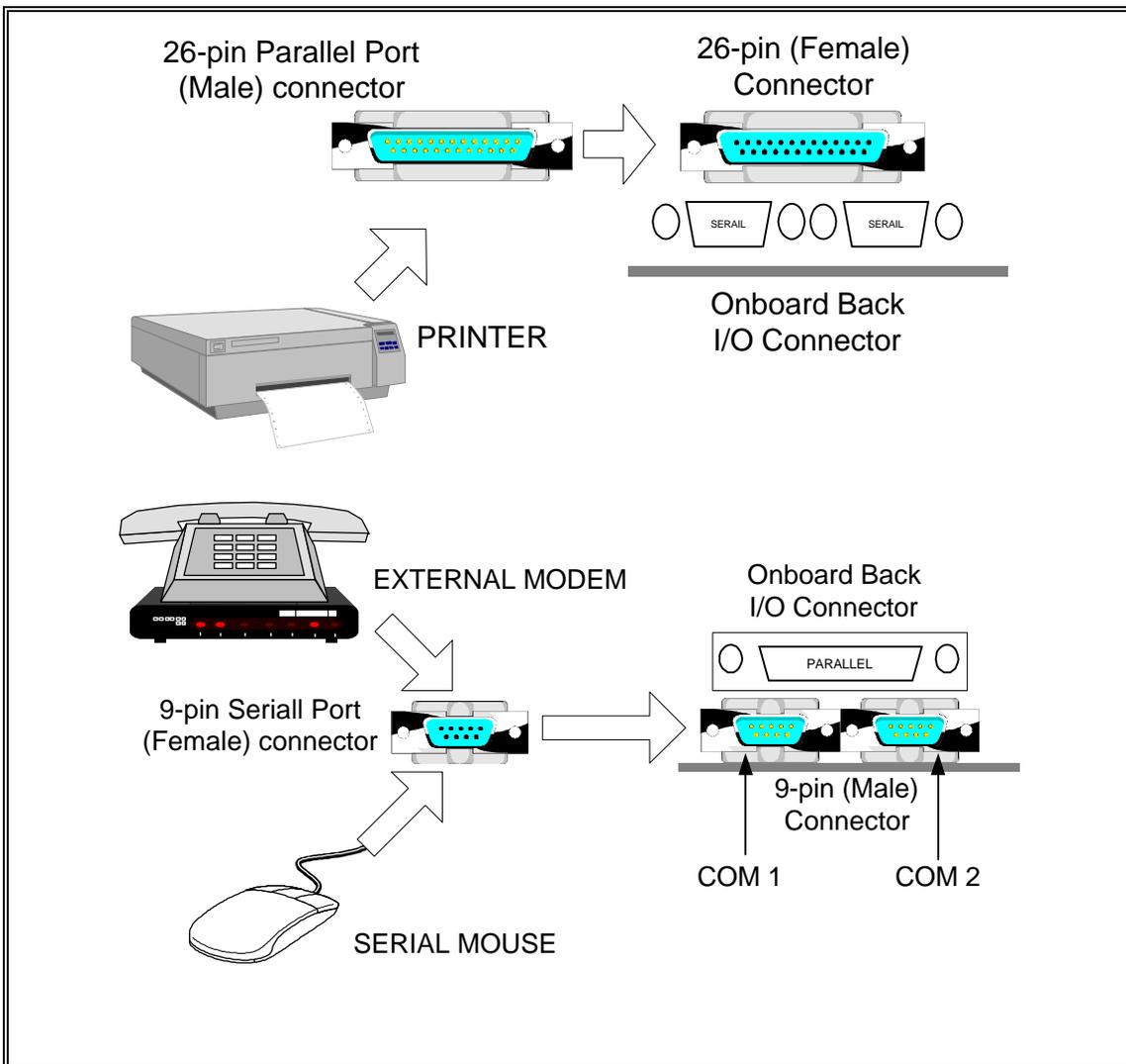
J15 Pin	Signal Name
1	VCC, power source
2	N/C
3	IRRX, infra-red receive
4	N/C
5	IRTX, infra-red transmit

I/O Back Panel Connectors

The I/O back panel allows external access to PS/2 keyboard and mouse connectors as well as two serial ports, and one parallel port, which are integrated on the motherboard. Figure below shown the general location of the I/O connectors.

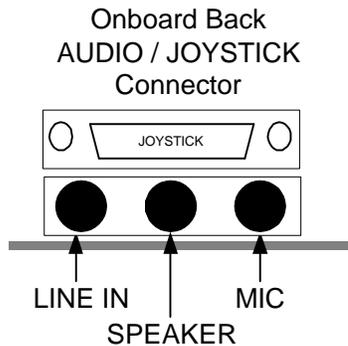


I/O Back Panel Connector Installation Diagram for PS/2 and USB



I/O Back Panel Connector Installation Diagram for Serial and Parallel Ports

AUDIO / JOYSTICK CONNECTOR



The Audio Connector allow you to attach other devices to your board. The connectors are three one-hole connecting interfaces. Jacks on the rear panel of your board.

Line In Jack (Line In)

The Line In jack allows you to connect devices such as MPEG Card, Music Player to you board for playback or recording.

Microphone In Jack (MIC)

The Microphone jack allows you to connect a microphone for voice input.

Speaker Out Jack (Speaker)

The Speaker jack allows you to connect speakers for audio output from the built-in amplifier. The built-in amplifier has a maximum output power of four watts per channel from four-ohm speakers and two watts per channel from eight-ohm speakers. Do not play maximum volume if your speakers cannot handle this power.

You can also connect to external amplifier for audio output.

Other Audio Connector

There are many other connectors allow you to attach other devices to your card.

CD AUDIO Connectors (CD_IN)

The CD Audio Connectors allow you to connect a suitable CD audio cable from your CD-ROM drive's to your board. You can listen the audio form your CD_ROM drive.

AUX connectors (AUX_IN)

The AUX connectors allow you to connect additional internal audio sources such as TV turner, MPEG or other similar cards to your board. The volumes of the AUX devices are controlled by CD and Line In volume sliders in the audio mixer program.

MODEM connectors (AUX_CONN)

The MODEM connector allows you to connect any voice modem that is specially designed for this interface.

Joystick / MIDI connector

The Joystick / MIDI connector allows you to connect a joystick or MIDI kit to your board.

PC Speaker Jumper(JP1)

This connector makes it possible to redirect sounds that normally come from the PC speaker to your external speakers.

Pin Out information

You may want to internally connect your board to other devices on your system. The table defines the pins of internal connectors on your board.

NOTICE

Read this table only if you are an advanced user who knows how to use the pin assignments.

CD Audio Connector Pin Assignments

Your board has two CD Audio connectors

J6 (CD_IN)

PIN	SIGNAL	I/O
1	CD Left Channel	IN
2	Ground	IN
3	Ground	IN
4	CD Right Channel	IN

J8 (CD_IN)

PIN	SIGNAL	I/O
1	Ground	IN
2	CD Left Channel	IN
3	Ground	IN
4	CD Right Channel	IN

AUX_IN Connector Pin Assignment

The AUX_IN connector has following pin assignments as shown in table below.

J7 (AUX_IN)

PIN	SIGNAL	I/O
1	Ground	IN
2	AUX Left Channel	IN
3	Ground	IN
4	AUX Right Channel	IN

PC SPEAKER Connector Pin Assignment

The PC SPEAKER connector has following pin assignments as shown in table below.

J7 (PC SPK)

PIN	SIGNAL	I/O
1	+5V	IN
2	Internal Speaker out: Signal source from internal speaker	OUT
3	PC Speaker Out: Input from speaker	IN

MODEM Connector Pin Assignment

The MODEM connector for modem has following pin assignments as shown in table below.

J4 (AUX_CONN)

PIN	SIGNAL	I/O
1	Ground	IN / OUT
2	No connect	N/A
3	LINE-IN: Mono Line Level input from modem to Line-In jack.	IN
4	Ground	IN / OUT
5	LINE-OUT-R: Right channel audio output to modem	OUT
6	Ground	IN / OUT
7	LINE-OUT-L: Left channel audio output to modem	IN
8	MONO-IN: Input from modem to speaker	IN
9	Ground	IN / OUT
10	MIC-IN: Microphone input from modem	IN

Chapter 2

WinBIOS Setup

WinBIOS Setup is a setup program to access the system information stored in CMOS RAM. WinBIOS Setup sets a new standard in BIOS user interfaces and it has an easy-to-use graphical user interface that should be immediately recognizable to anyone who has ever used Microsoft Windows..

Starting WinBIOS Setup

As POST executes, the following appears:

```
Hit <DEL> if you want to run SETUP
```

Press to run WinBIOS Setup.

WINBIOS SETUP FEATURES

Icon-Based User Interface

WinBIOS Setup functions are all available in an easily-accessible graphical user interface.

Automatic Intelligent Option Selection

WinBIOS is self-configured to reflect dependencies between WinBIOS features and WinBIOS Setup options. For example, the External Cache option in Advanced Setup will be displayed if the computer has secondary cache memory but absent if there is no secondary cache memory.

Help Screens

WinBIOS Setup provides Help screens for Advanced Setup, Chipset Setup and Power Management Setup. Help on mouse and keyboard use is also available. Choose Help by pressing <Alt> <H> or click a help button.

Automatic WinBIOS Setup Option Selection

If selecting a particular setting for one WinBIOS Setup option determines the settings for one or more other WinBIOS Setup options, WinBIOS automatically assigns the dependent settings and does not permit the end user to modify these settings unless the setting for the parent option is changed.

Point and Click Interface

WinBIOS Setup uses the familiar point and click navigation technique. The end user can point with the mouse anywhere on the screen, click the left mouse button, and WinBIOS Setup control is transferred to the new location. The previous window is closed. All parameters that have been changed will automatically be saved, pending the selection on the exit screen.

Bus Mouse and Microsoft Mouse Support

The following types of mouse devices are supported:

- PS/2-type mouse,
 - Bus mouse that use IRQs 3, 4, or 5 (IRQ2 is not supported),
 - Microsoft-compatible mice (the M, V, W Series using the M and M+ protocols)
 - Logitech C-series-compatible mice using the MM protocol.
-

USING A MOUSE WITH WINBIOS SETUP

WinBIOS Setup can be accessed via keyboard and mouse. The mouse click functions are:

- **Single click to change or select both global and current fields and**
- **Double click to perform an operation in the selected field.**

USING KEYBOARD WITH WINBIOS SETUP

WinBIOS Setup has a built-in keyboard driver that uses simple keystroke combinations:

Keystroke	Function
<Tab>	Move to the next window or field.
→, ←, ↑, ↓	Move to the next field to the right, left, above, or below.
<Enter>	Select in the current field.
+	Increments a value.
-	Decrements a value.
<Esc>	Closes the current operation and return to previous level.
<PgUp>	Returns to the previous page.
<PgDn>	Advances to the next page.
<Home>	Returns to the beginning of the text.
<End>	Advances to the end of the text.
<Alt> <H>	Access a help window.
<Alt> <Spacebar>	Exit WinBIOS Setup.
Alphabetic keys	A to Z are used in the Virtual Keyboard, and are not case-sensitive.
Numeric keys	0 to 9 are used in the Virtual Keyboard and Numeric Keypad.

WINBIOS SETUP MAIN MENU

The WinBIOS Setup main menu, shown below, is organized into four windows. Each window corresponds to a section in this chapter.

Each section contains several icons. Clicking on each icon activates a specific function. The WinBIOS Setup icons and functions are described in this chapter.

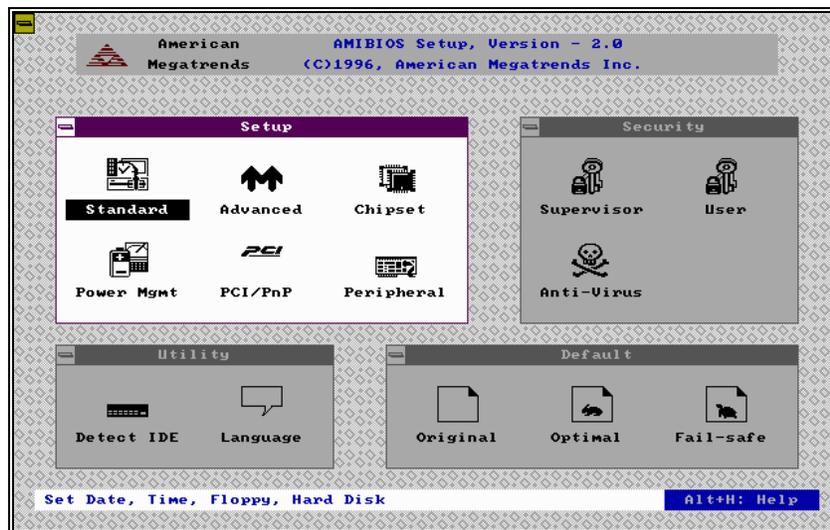
There are four major sections:

Setup This section has six icons that permit you to set system configuration options such as date, time, hard disk type, floppy type, and many others.

Utility This section has three icons that perform system functions.

Security This section has two icons that control WinBIOS security features.

Default This section has three icons that permit you to select a group of settings for all WinBIOS Setup options.



BIOS DEFAULT

Each WinBIOS Setup option has two default settings. These settings can be applied to all WinBIOS Setup options when you select the Default section on the WinBIOS Setup main menu. The types of defaults are:

- | | |
|-----------|---|
| Original | These settings restore the values present in WinBIOS Setup when you first began this WinBIOS Setup session. |
| Optimal | These settings provide optimal performance characteristics for most system configuration. |
| Fail-Safe | These settings are more likely to configure a workable computer when something goes wrong. If you cannot boot up the computer successfully, select the Fail-Safe WinBIOS Setup options and try to diagnose the problem after the computer boots up. These settings provide basic performance. |
-

SECTION 1

SETUP

STANDARD SETUP

The Standard Setup options described in this section are selected by choosing the **Standard** icon from the Setup menu selection screen. The selection window is shown below.

Date / Time

Select the Standard option. Select the Date and Time icon. The current values for each category are displayed. Enter new values through the keyboard.

Floppy A Floppy B

Move the cursor to these fields via ↑ and ↓ and select the floppy type. The settings are *360KB/inch, 1.2MB/inch, 720KB/inch, or 1.44MB/inch.*

Pri Master/Slave Sec Master/Slave

Choose these icons to configure the hard disk drive named in the option. When you click on an icon, the following parameters are listed: Type, LBA/Large Mode, Block Mode, 32Bit Mode, and PIO Mode.

Configuring an MFM Drive

If configuring an old MFM hard disk drive, you must know the drive parameters. Choose **Type** and choose the appropriate hard disk drive type (1 - 46).

User-Defined Drive

If you are configuring a SCSI drive or an MFM, RLL, ARLL, or ESDI drive with drive parameters that do not match drive types 1-46, you must select **User** in the Type field. You must then enter the drive parameters on the screen that appears. The drive parameters include:

Configuring IDE Drives

If the hard disk drive to be configured is an IDE drive, select the appropriate drive icon (Pri Master, Pri Slave, Sec Master, or Sec Slave). Choose the **Type**

parameter and select **Auto**.

AMIBIOS automatically detects the IDE drive parameters and displays them. Click on the OK button to accept these parameters.

Click on **LBA/Large Mode** and choose **On** to enable support for IDE drives with capacities greater than 528 MB.

Click on **Block Mode** and choose **On** to support IDE drives that use Block Mode.

Click on **32Bit Mode** and click **On** to support IDE drives that permit 32-bit accesses.

Click on **PIO Mode** to select the IDE Programmed I/O mode. The settings are **Auto, 0, 1, 2, 3, 4, or 5**. Click on **Auto** to allow AMIBIOS to automatically choose the PIO mode that the IDE drive being configured uses. If you select **0-5** you must make absolutely certain that you are selecting the PIO mode supported by the IDE drive being configured.

Configuring a CD-ROM Drive

Select the appropriate drive icon (Pri Master, Pri Slave, Sec Master, or Sec Slave). Choose the **Type** parameter and select **CDROM**. You can boot the computer from a CD-ROM drive.

ADVANCED SETUP

The Advance Setup options described in this section are selected by choosing the **Advance** icon from the Setup menu.

Quick Boot

When this option is enabled, the memory test is done only on the first 1MB of system memory. When this option is disabled, the WinBIOS memory test is performed on all system memory. The settings are *Enabled* or *Disabled*.

Power On Config Screen (Sec)

Boot Up Num Lock

When set to On, this option turns off Num Lock when the system is powered on. The settings are *On* or *Off*.

Floppy Drive Swapping

Set this option to *Enabled* to permit drives A: and B: to be swapped. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

Floppy Drive Seek At Boot

When this option is enabled, WinBIOS performs a Seek command on floppy drive A: before booting the system. The settings are *Enabled* or *Disabled*.

Mouse Support

Enable this option if you want to use mouse. When this option is set to Enabled, AMIBIOS supports a PS/2-type mouse. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

Typematic Rate (Chars/Sec)

Typematic Rate sets the rate at which characters on the screen repeat when a key is pressed and held down. The settings are *Fast* or *Slow*.

System Keyboard

This option specifies the error messages are displayed or not displayed if a keyboard is not attached. This option permits you to configure workstations with no keyboard. The settings are *Absent* or *Present*.

Primary Display

Select this icon to configure the type of monitor attached to the computer. The settings are *Absent, Monochrome, Color 40x25, Color 80x25 or VGA/EGA.*

Password Checking

This option enables the password check option every time, the system boots up or the user runs Setup. If Always is chosen, a user password promptly appears every time the computer is turned on. If Setup is chosen, the password promptly appears if WinBIOS is executed.

OS/2 Compatible Memory Mode

Some the OS/2 application access the memory in different mode. Enable this option to allow the system use another mode to access the main memory for OS/2 applications.

Internal Cache

This option enables the internal (L1) cache memory of the CPU. The settings are **Writeback** or **Disabled**.

External Cache

This option enables the internal and external cache memory. You can either *Enable* or *Disable* External cache.

System BIOS Cacheable

This option enables the cache features on system BIOS.

Video ROM Shadow or Cached

Adapter ROM C000, 16K
Adapter ROM C400, 16K
Adapter ROM C800, 16K
Adapter ROM CC00, 16K
Adapter ROM D000, 16K
Adapter ROM D400, 16K
Adapter ROM D800, 16K
Adapter ROM DC00, 16K

The video and adapter ROMs present on the system may either execute out of its ROM (disabled), or execute out of shadow RAM (shadow), or execute out of shadow and be cached (cache). The settings are *Enabled, Shadow or Cache.*

CHIPSET SETUP

The Chipset Setup options described in this section are selected by choosing the **Chipset** icon from the Setup menu.

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache.

Memory Hole
DRAM speed
IRQ 12/M mouse function
8bit I/O Recovery Time
16bit I/O Recovery Time

The system is automatically set up at optimum performance when you load the optimal default setting from the optimal icon. You should not change the setting unless you know what are you are doing.

POWER MANAGEMENT SETUP

The Power Management options described in this section are selected by choosing the **Power Management** icon from the Setup menu.

APM Interface-APM is the specification created by Microsoft and Intel that provides an environment for power management of personal computers by the system BIOS, operating system or application or applications. The system will support DOS & WINDOW Advance Power Management mode.

For Microsoft DOS 6.x, add the following statement to your CONFIG.SYS file:

```
DEVICE=C:\DOS\POWER.EXE
```

For Microsoft Windows 3.1, run SETUP.EXE from Windows directory and select **Computer**, select option **MS-DOS System with APM**. In Windows' **Main** group, run **Control Panel** and click the **Power** icon and change **Power Management** option to **Advanced**.

Advance Power Management

Enable this option to enable the Green PC features.

The system provides two timer for user specified the time to indicate that the system has been idle for a programmed period of time. The timer counts down from a specified start value, and will enter power saving modes in the following order:

- 1) Enabled: During Full On (Normal) Mode, if the system idle prior to the Standby Timer elapsed, the system will enter Standby Mode. During Standby Mode, the CPU clock will slow down. In addition, you can control the VGA monitor blank off and the IDE hard drives will be powered down by selecting these option.
-

Green PC Monitor Power State

This option specifies the power management state that the Green PC-compliant video monitor enters after the specified period of display inactivity has expired. The settings are *Disabled*, *Off*, *Standby*, or *Suspend*. The default settings are **Disabled**.

Video Power Down Mode

This option specifies the power management state that the video subsystem enters after the specified period of display inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The default settings are **Disabled**.

Hard Disk Power Down Mode

This option specifies the power management state that the hard disk drive enters after the specified period of display inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The default settings are **Disabled**.

Hard Disk Timeout (Min)

This option specifies the length of a period of hard disk inactivity. When this period expires, the hard disk drive enters the power-conserving mode specified in the **Hard Disk Power Down Mode** option described on the previous page. The settings are *Disabled*, *1 Min (minutes)*, and all one minute intervals up to and including *15 Min*. The default settings are **Disabled**.

Standby Timeout Value

This option specified the timeout value of the system is inactive (no SMI Event). If the system is inactive for that period, it will enter Standby power saving mode.

Suspend Timeout Value

This option specified the timeout value of the system is inactive (no SMI Event) while the system is in standby mode. If the system is inactive for that period, it will enter from Standby mode to suspend power saving mode.

Slow Clock Ratio

This option specifies the speed at which the system clock runs in power saving modes. The settings are expressed as a ratio between the normal clock speed and the power down clock speed. The settings are **1:1, 1:2, 1:4, 1:8, 1:16, 1:32, 1:64, or 1:128**. The default setting is **1:1**.

Display Activity

Select the power down mode for VESA video display in this option. The system will use this information to send different control signals to set the screen blank. There are three options:

Suspend: The System BIOS will only blank off the screen when disabling video for VGA monitor.

Off: In addition to VGA off, BIOS will also turn off the V-SYNC & H-SYNC signals from VGA cards to monitor.

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

Break Event

The menu lists the SMI events by which the system wakes up from SUSPEND modes. The settings for the following SMI events can be *Monitor* and *Ignore*. When an activity is set to disabled, the system will enter power saving modes even this activity is still occurring.

- Keyboard Activity (Not shown)
 - Harddisk Activity (Not shown)
 - IRQ 3 (Com 2 / LAN) Activity
 - IRQ 4 (Com 1) Activity
 - IRQ 5 (Lpt 2) Activity
 - IRQ 7 (Lpt 1) Activity
 - IRQ 9 Activity
 - IRQ 10 Activity
 - IRQ 11 Activity
 - IRQ 12 Activity
 - IRQ 15 (Secondary IDE channel) Activity
-

PCI/PNP SETUP

The PCI/PnP Setup options are displayed by choosing the PCI/PnP Setup icon from the WINBIOS Setup main menu. All PCI/PnP Setup options are described in this section

Plug and Play Aware OS

Set this option to *Yes* if the operating system installed in the computer is Plug and Play-aware. AMIBIOS only detects and enables PnP ISA adapter cards that are required for system boot. The Windows 95 operating system detects and enables all other PnP-aware adapter cards. Windows 95 is PnP-aware. Set this option to *No* if the operating system (such as DOS, OS/2, Windows 3.x) does not use PnP. *You must set this option correctly or PnP-aware adapter cards installed in your computer will not be configured properly.* The settings are *No* or *Yes*.

PCI Burst Mode

Set this option to Enabled to enable PCI burst mode. The settings are *Disabled* or *Enabled*.

PCI Concurrency

Set this option to Enabled to enable PCI Concurrency mode. The settings are *Disabled* or *Enabled*.

PCI Steaming

Set this option to Enabled to enable PCI Steaming mode. The settings are *Disabled* or *Enabled*.

PCI Latency Timer (in PCI Clocks)

This option sets latency of all PCI devices on the PCI bus. The settings are in units equal to PCI clocks. The settings are *32, 64, 96, 128, 160, 192, 224, or 248*.

PCI VGA Palette Snoop

This option must be set to Enabled if any ISA adapter card installed in the computer requires VGA palette snooping. The settings are *Disabled* or *Enabled*.

Offboard PCI IDE Card

This option specifies if an offboard PCI IDE controller adapter card is used in the computer. You must also specify the PCI expansion slot on the motherboard where the offboard PCI IDE controller card is installed. If an offboard PCI IDE controller is used, the onboard IDE controller on the motherboard is automatically disabled. The settings are *Disabled*, *Auto*, *Slot1*, *Slot2*, *Slot3*, or *Slot4*.

If *Auto* is selected, AMIBIOS automatically determines the correct setting for this option. The Optimal and Fail-Safe default settings are **Auto**.

IRQ3-IRQ15

These options specify the bus that the named interrupt request lines (IRQs) are used on. These options allow you to specify IRQs for use by legacy ISA adapter cards.

These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to BIOS configurable devices. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these PCI/PnP Setup options to remove the IRQ by assigning the option to the *ISA/EISA* setting. Onboard I/O is configurable by AMIBIOS. The IRQs used by onboard I/O are configured as *PCI/PnP*.

The settings are *PCI/PnP* or *ISA/EISA*. The Optimal and Fail-Safe default settings are *PCI/PnP*.

Reserved Memory Size

This option specifies the size of the memory area reserved for legacy ISA adapter cards. The settings are *Disabled*, *16K*, *32K*, or *64K*.

Reserved Memory Address

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards.

The settings are *C0000*, *C4000*, *C8000*, *CC000*, *D0000*, *D4000*, *D8000*, or *DC000*. The Optimal and Fail-Safe default settings are *C0000*.

PERIPHERAL SETUP

The WinBIOS Setup options described in this section are selected by choosing the appropriate high-level icon from the WinBIOS Setup main menu.

The settings are Auto or Manual. When set to Auto, WinBIOS automatically detects all the peripheral installed in the system and configures the onboard I/O (serial ports, parallel ports, floppy controllers) automatically. All other Peripheral Setup option settings are ignored. Any serial port, parallel port, floppy controller on an adapter card in an expansion slot is configured before onboard I/O. If the offboard serial ports are configured to specific starting I/O ports via jumper settings, WinBIOS configures the onboard serial ports to avoid conflicts. If Manual is selected, the setting chosen by the end user in Peripheral Setup apply. WinBIOS reports any I/O conflicts after displaying the BIOS Configuration Summary Screen, but only if Manual is chosen.

On-Board Floppy Controller (FDC)

This option enables the use of the floppy drive controller on the board. The settings are **Enabled** or **Disabled**

On Board Serial Port 1

IRQ4 is used for the first serial port (COM 1). This option enables the serial port 1 on the board. The setting are **3E8h**.

On Board Serial Port 2

IRQ3 is used for the first serials port (COM 2). This option enables the serial port 2 on the board. The setting are **2E8h**.

On Board Parallel Port

IRQ7 is used for the parallel port (LPT 1). This option enables the parallel port on the board. The setting are 278h.

Parallel Port Mode

This option specifies the parallel port Mode. The settings are Normal, ECP and EPP.

Parallel Port DMA Channel

This option specifies the DMA channel used for the parallel port in ECP Mode.

Onboard PCI IDE

You can disable the on board IDE interface by using this option. The on-board IDE interface can be disabled individually or both.

SECTION 2

UTILITY

UTILITY

The following icons appear in this section:

Detect IDE	If hard disk is an IDE drive, the parameters for hard disk are automatically detected and reported to the hard disk screen in Standard Setup, so you can easily configure the drives.
Language	Language allows you to select language screen prompts and messages. It only support English at this time

SECTION 3

SECURITY

PASSWORD SUPPORT

WinBIOS Setup has an optional password feature. The system can be configured so that all users must enter a password every time the system boots or when WinBIOS Setup is executed.

You can enter a password by:

- typing the password on the keyboard,
 - selecting each letter via the mouse.
-

Setting a password

The **Password Check** option is enabled in Advanced Setup by choosing either **Always** (the password prompt appears every time the system is powered on) or **Setup** (the password prompt appears only when WinBIOS Setup is run). The password is stored in CMOS RAM.

Enter a 1-6 character password. The password does not appear on the screen when typed. WinBIOS will ask you to retype the password. If you forget it, you must drain CMOS RAM and reconfigure the system.

Changing a password

Select the Password icon from the Security section of the WinBIOS main menu. Enter the password and press <Enter>. The screen does not display the characters entered. After the new password is entered, retype the new password as prompted and press <Enter>.

If the password confirmation is incorrect, an error message appears. If the new password is entered without error, press <Esc> to return to the WinBIOS Setup Main Menu. The password is stored in CMOS RAM after WinBIOS Setup completes. The next time the system boots up you are prompted for the password if the password function is present and is enabled.

ANTI-VIRUS

When the Anti-Virus is enabled from the Security section of the WinBIOS Setup menu, WinBIOS issues a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive.

The settings are **Enabled** or **Disabled**. If **Enabled** is selected, the following appears when a write is attempted to the boot sector. You may have to type **N** several times to prevent the boot sector write.

```
Boot Sector Write!!!  
Possible VIRUS: Continue (Y/N)? _
```

The following is displayed after any attempt to format any cylinder, head, or sector of any hard disk drive via the BIOS INT 13h Hard Disk Drive Service:

```
Format!!!  
Possible VIRUS: Continue (Y/N)? _
```

Formatting the Hard Disk Drive

You should not enable anti-virus protection when formatting a hard disk drive.

The DOS hard disk Format utility does not use INT 13h function AH = 05h to format the hard disk. It only verifies the hard disk using the INT 13h Verify function (AH = 04h). The virus warning message is not displayed during DOS hard disk drive formatting.

If the anti-virus feature is enabled, a virus warning message will be displayed when you attempt to format the hard disk drive.

If you select *Continue*, formatting proceeds as normal.

If you do not want to continue formatting, you may have to press **N** several times (depending on how many retries are performed by the upper-level software). DOS, for example, does at least five retries before the Format utility is actually aborted.

SECTION 4

DEFAULT

DEFAULT

The icons in this section permit you to select a group of settings for all WinBIOS Setup options. Not only can you use these icons to quickly set system configuration parameters, you can choose a group of settings that have a better chance of working when the system is having configuration-related problems.

Original

Choose the Original icon to return to the system configuration values present in WinBIOS Setup when you first began this WinBIOS Setup session.

Optimal

You can load the optimal default settings for the WinBIOS Setup options by selecting the Optimal icon. The Optimal default settings are best-case values that should fit most system configuration. If CMOS RAM is corrupted, the Optimal settings are loaded automatically.

Fail-Safe

You can load the Fail-Safe WinBIOS Setup option settings by selecting the Fail-Safe icon from the Default section of the WinBIOS Setup menu.

The Fail-Safe settings provide far from optimal system performance, but they are the most stable settings. Use this option as a diagnostic aid if the system is behaving erratically.

Motherboard Technical Specification

Environment

Parameter	Specification
Operating Temperature Humidity Atmosphere	+0°C to +55°C 20% to 80% Non-condensing
Non-operating/Transportation Temperature Humidity Atmosphere	-20°C to +65°C 10% to 90% Non-condensing
ATX Power Supply Requirement +3.3 V ±5 V ±12 V	±5 % ±5 % ±5 %
Vibration Operating	0.2G Z axis (up and down), 5 to 300 Hz 0.1G X axis (front and rear), 5 to 300 Hz Y axis (left and right), 5 to 300 Hz

Dimensions and Weight

Dimension Approx.	305 x 244 mm (12 x 9.6 inches)
Net Weight	0.65 Kg (1.43 lb.)

Electrical Specification

Onboard Voltage Regulation	Under 3.3V condition
Voltage transient	± 5%
Set point variation	± 1%
Onboard Current Limitation	
Under 3.3V condition	about 14 Ampere (max.)

Power Consumption

The is designed to operate with a 200 W ATX power supply. For a system configured with the motherboard including a 200 MHz PENTIUM II processor w/ 256 KB Cache, 64 MB EDO DRAM, 3.5-inch floppy drive, 2.1 GB IDE hard drive, 8X IDE CD-ROM, and a PCI graphics card, The overall

calculated power dissipation is about 80W. However, this information is provided only as reference for the total system power usage.

Request For Technical Support

In order to provide you with effective and quick technical support, we need to know your system specification and environments. Please fill the following form as complete as possible so we can give you assistance.

PRODUCT INFORMATION	
MODEL	
CHIPSET MODEL	
RAM TYPE/SIZE/BRAND/SPEED	
BIOS VERSION	
PURCHASE DATE	
PROBLEM DESCRIPTION	
OPERATING SYSTEM	
APPLICATION SOFTWARE	
PROBLEM DESCRIPTION	

SYSTEM CONFIGURATION		
Display Card (Brand/Model)		
Resolution		
IDE Controller Card (Brand/Model)		
LAN Card (Brand/Model)		
Fax/Modem Card (Brand/Model)		
SCSI Controller (Brand/Model)		
Multi I/O Card (Brand/Model)		
Other Add-on Card (Brand/Model)		
IDE Disk Drive	PRIMARY MASTER (Brand/Model)	
	PRIMARY SLAVE (Brand/Model)	
	SECONDARY MASTER (Brand/Model)	
Floppy Drive	SECONDARY SLAVE (Brand/Model)	
	DRIVE A (Brand/Model)	
	DRIVE B (Brand/Model)	
Other Device (Brand/Model)		