

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 your board from static electricity by well grounding of your 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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Chapter 1

Features of the Board

OVERVIEW

Congratulations on purchasing the highest performance 6MLX PENTIUM II® motherboard. With the advanced technologies available today, this motherboard is designed to optimized for Intel's PENTIUM II® processors at speeds of 233 MHz and 266 MHz or higher. Four unbuffered, 3.3 Volts, 168-pin DIMM sockets are included for supporting 16MB to 1GB EDO RAM or up to 512M SDRAM. A Slot 1 connector allows an easy upgrade path for the future PENTIUM II® processors.

This motherboard maximum utilizes Intel's 82440LX PCI chipset. The Intel 82371AB PCI/ISA IDE Xcelerator (PIIX4) provides an integrated Bus Mastering IDE controller with two high performances 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 6MLX is designed to support the new graphic interface standard, Accelerated Graphic Port (AGP), The AGP interface can reach a theoretical ~532Mbytes/sec transfer rate for 3D graphics data. The 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 233/266/300 MHz with automatically voltage adjustment.
- Intel 440LX PCIset, including a 82443LX PCI/Memory controller (PMC), 82371AB PCI ISA IDE Accelerator (PIIX4).
- 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 168-pin DIMM sockets, supports up to 512MB SDRAM or 1GB with EDO DRAM.
- One Accelerated graphic port (AGP) for AGP card.
- Three 16-bit ISA expansion slots and four 32-bit PCI expansion slots.
- Integrated two PCI bus master Ultra 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.
- ATX form factor board with size 305 x 244mm

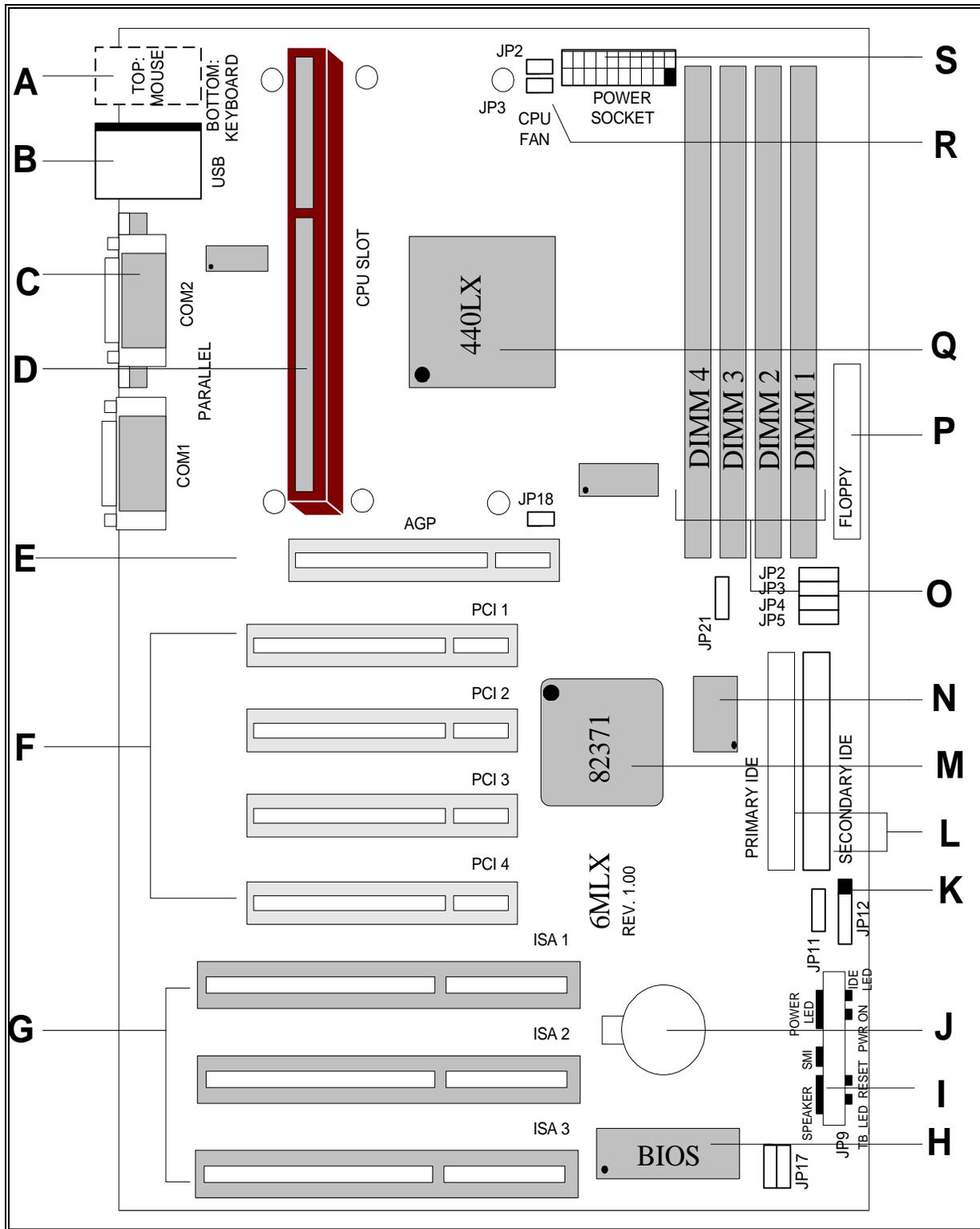


Fig.1 Parts Location on the Motherboard

QUICK REFERENCE OF YOUR MOTHERBOARD

A	PS/2 Keyboard / Mouse Connectors	K.	Infra-Red (IR) Connector
B	Universal Serial Bus (USB) Connectors	L.	IDE device connector
C	External I/O Connectors	M.	Integrated I/O Controller
D	PENTIUM II CPU Card Slot	N.	Intel SB82371AB Chipset
E	Accelerated Graphic Port (AGP)	O.	3.3v DIMM Sockets
F	PCI Add-in Board Connectors	P.	Floppy Drive Connector
G	ISA Add-in Board Connectors	Q.	Intel SB82443LX Chipset
H	Flash BIOS	R.	CPU FAN Connector
I	Front Panel Function Connectors	S.	ATX Power Supply Connector
J	3V Lithium Battery		

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.

[A] 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 a writing tablet. 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.

[B] 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.

[C] 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.

[D] 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 2.1V to 3.5V 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 settings.

**PENTIUM II® PROCESSOR CARD**

The PENTIUM II⁰ processor integrates second level cache and cache controller that was 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, Intel386TM, Intel486TM 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.

[E] Accelerated Graphic Port (AGP)

The AGP is compatible with the Accelerated graphics port specification. The AGP offers a much higher throughput over the PCI bus does. PCI currently only supports 33Mhz can transport 133MB/s at peak rates over its 32bit data bus. AGP is clocked with 66Mhz, which enables a peak rate of 266 MB/s at the classic so called 'X1' mode. If using the 'X2' mode, it can transport up to 532MB/s at peak rate.

[F] PCI Add-in Board Connectors

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

[G] ISA Add-in Board Connectors

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

[H] 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>.

[I] 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.

[J] 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, the battery low may cause it. You can try to fix it by simply replaced the battery.

[K] 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.

[L] 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.

[M] 82371AB PCI/ISA IDE Xccelerator (PIIX4)

The Intel 82371AB is a 392-pin BGA 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 33 MB/sec in Ultra-DMA mode. In addition, it also integrated a 8 x 32-bit buffer for Bus Master IDE PCI burst transfers which further enhanced the system performance.
- Ultra-DMA controller with Fast Type-F DMA
- Counters/Timers, which provides advanced power management with programmable system management interrupt (SMI).

[N] 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 parallel port, which can be 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.

[O] DIMM Sockets

Four 168 pins standard DIMM socket allows your system using either for 3.3V unbuffered SDRAM or 3.3V EDO RAM. However, you can choose only one type of memory for your system use.

[P] Floppy Drive Connector

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

[Q] 82443LX PCI Bridge, AGP and Memory Controller (PAC)

The 82443LX comes in a 492 pin BGA 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 256MB main memory.
- Fully synchronous PCI bus interface with 25/30/33 MHz bandwidth.
- Write data Buffering and supports PENTIUM II -to-PCI burst writes.

[R] CPU FAN Connector

The CPU FAN connector allows you attach your CPU card fan here.

[S] ATX Power Supply Connector

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

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:

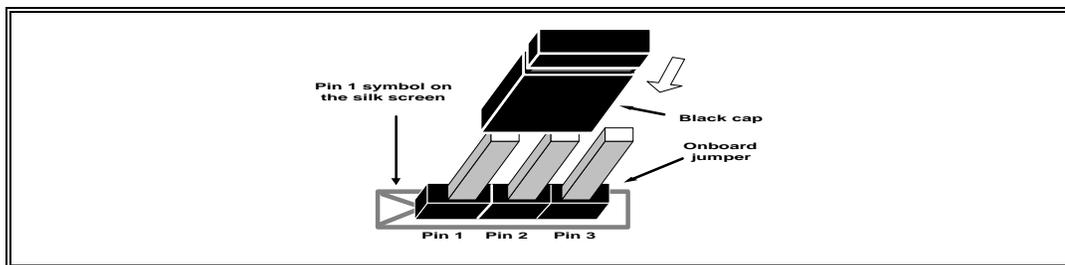
1. Set Jumpers on the motherboard
2. Install the CPU with cooling fan
3. Install RAM modules
4. Connect cables, wires and power connector
5. Install expansion cards

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 its 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).

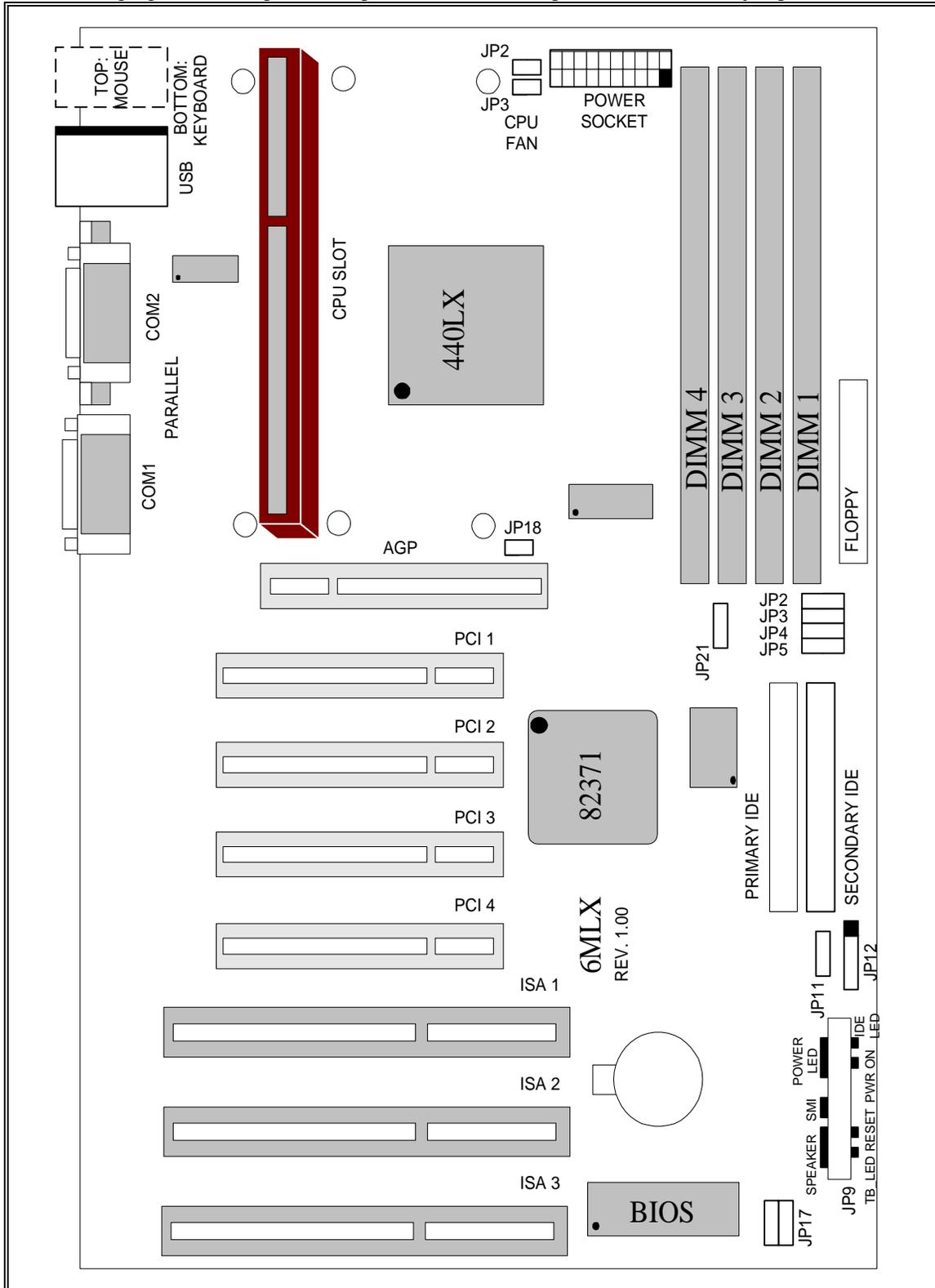


Fig.2 Map of the Onboard Jumpers

CPU Speed Selection

- JP2-JP5 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	JP2	JP3	JP4	JP5	Frequency Ratio
233	66MHz	[open]	[open]	[close]	[close]	3.5x
266	66MHz	[close]	[close]	[open]	[close]	4x
300	66MHz	[open]	[close]	[open]	[close]	4.5x
333	66MHz	[close]	[open]	[open]	[close]	5x

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 jumper 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.

Jumper	JP11
Normal	1-2
Reset	2-3

Other Jumpers

JP16 and JP17 are for Flash BIOS type select. The normal setting for all Flash ROM is 1-2.

Jumper	Default Setting
JP16, JP17	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, JP2 and JP3, on-board.

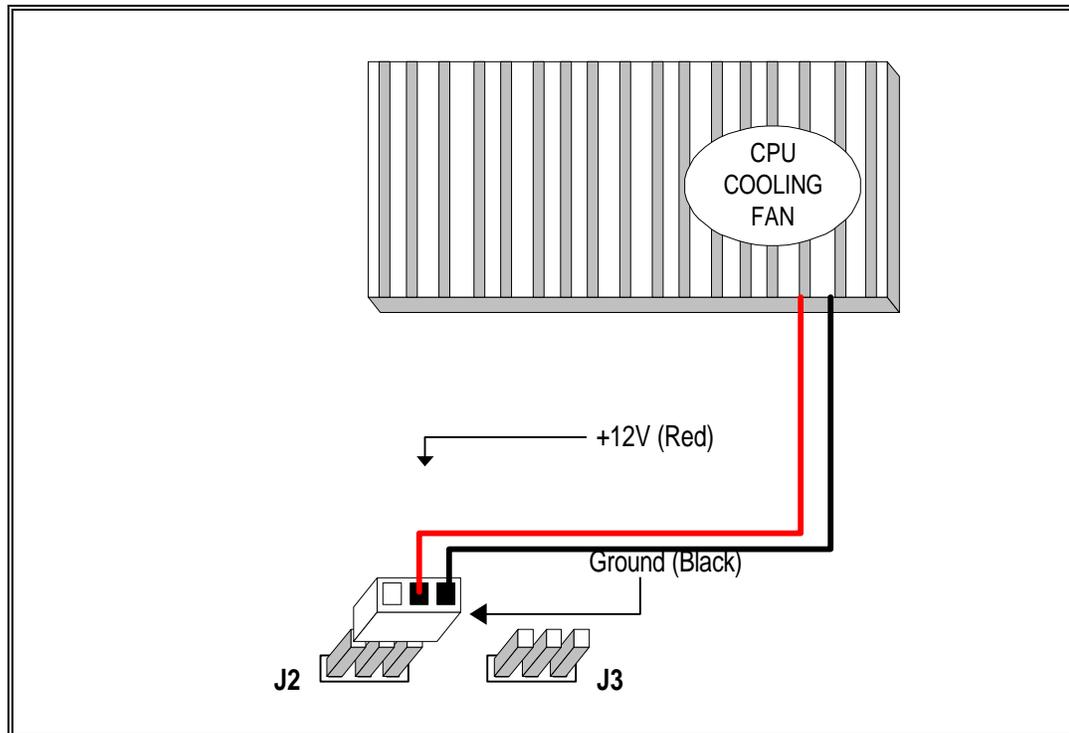


Fig. 3 CPU Cooling Fan Installation Diagram

! CAUTION

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

CPU Cooling fan Connector

J2 and J3 provide the +12 Volts d.c. for your CPU cooling fan

J2 and J3 Pin	Signal Name
1	Ground
2	+12V
3	Ground

INSTALLING SYSTEM MEMORY (RAM)

The motherboard supports four 168-pin DIMM. The four 168-pin DIMM sockets are divided into four banks and each bank can accept either 3.3v EDO DRAM or SDRAM module but you can only choose one type of DRAM use on your system.

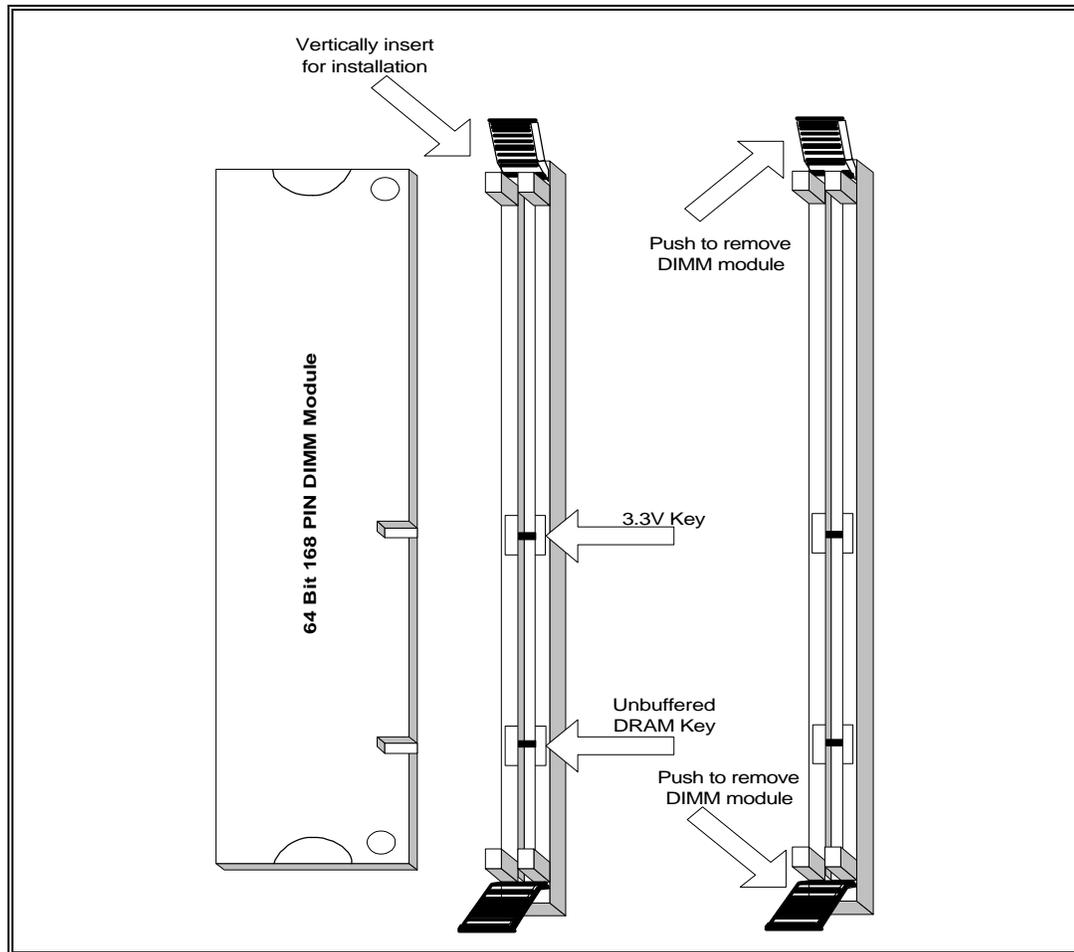


Fig. 4 168-Pin DIMM Module Installation Diagram

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

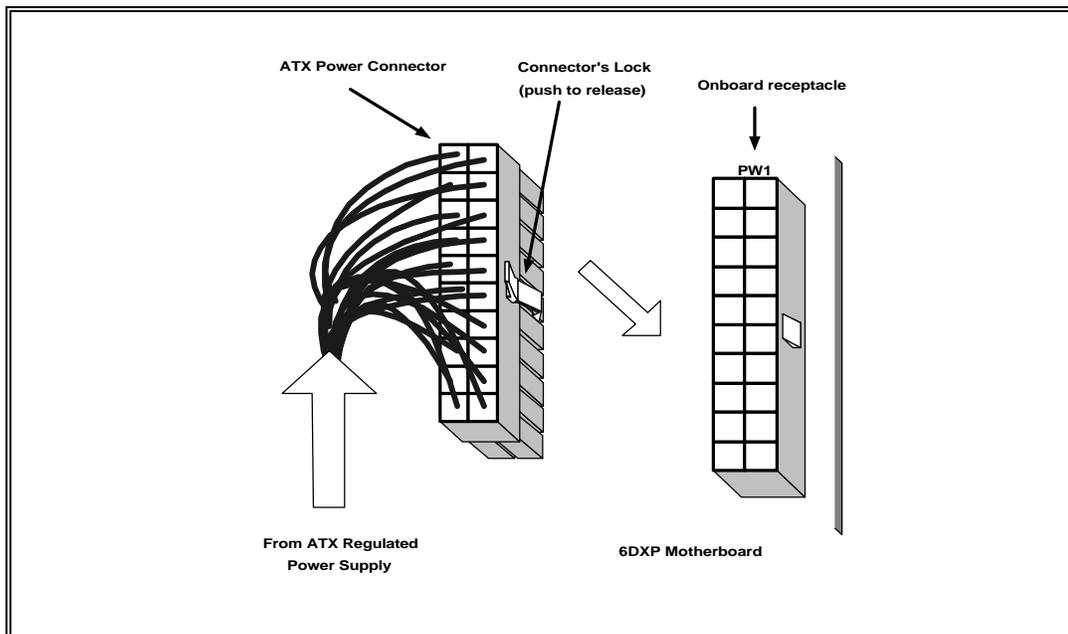


Fig.5 ATX Power Connector Installation

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:

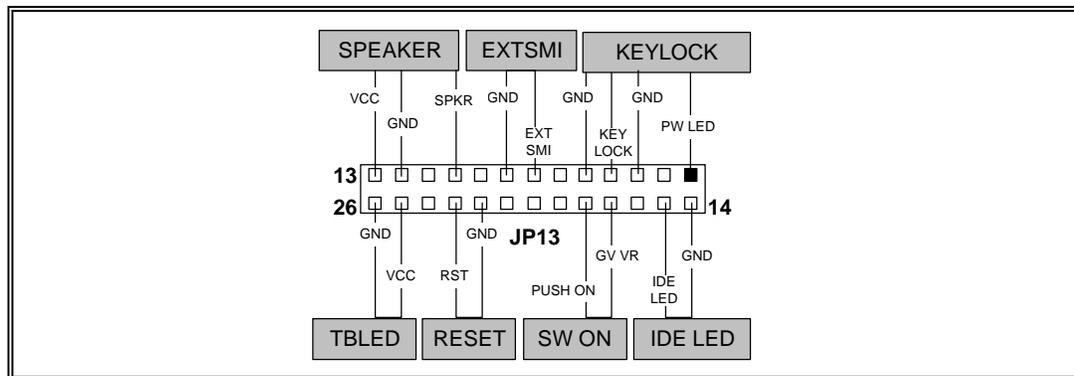


Fig.6 The Onboard Function Connector Pin Out

About Soft Touch Power Button

For the ATX system case, the new soft touch power button replaces the main power switch to switch ON / OFF your system. You can switch the system ON by pressing the button. If you want to switch OFF your system, press the button and hold it for 4 seconds. You can also change the functions of the power button in the CMOS setup at power management section.

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. The following figure showed the location of the I/O connectors.

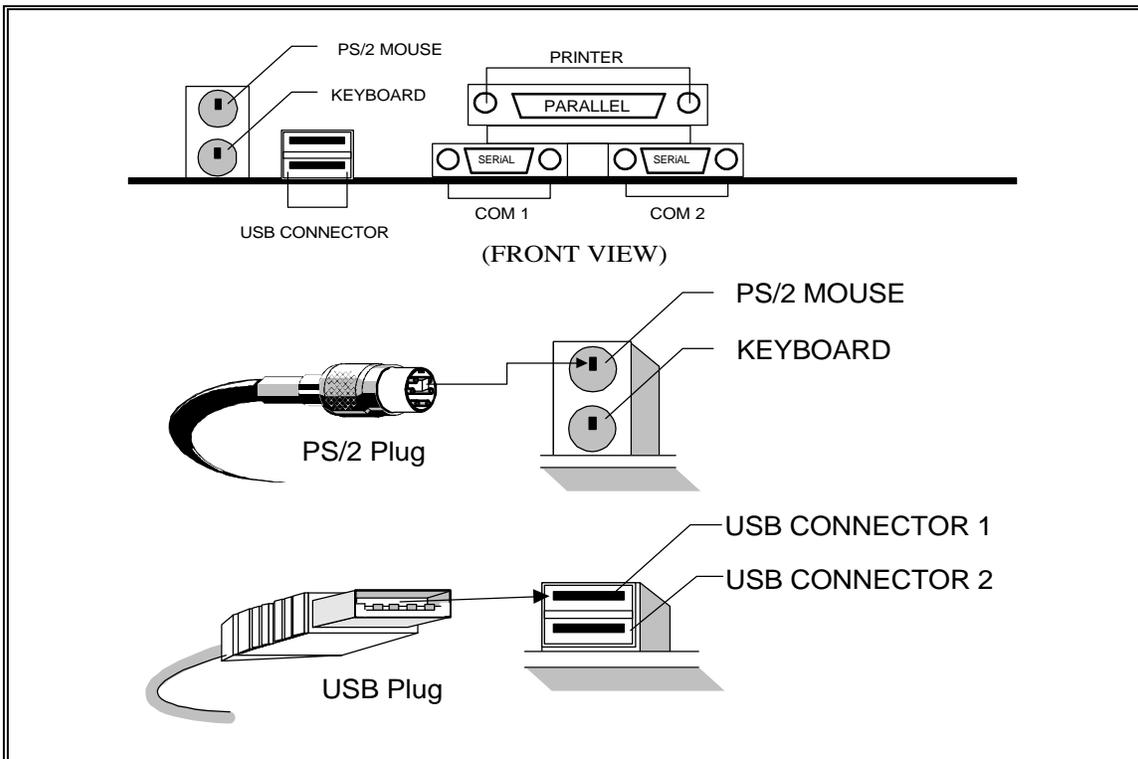


Fig.7 I/O Back Panel Connector Installation Diagram for PS/2 and USB

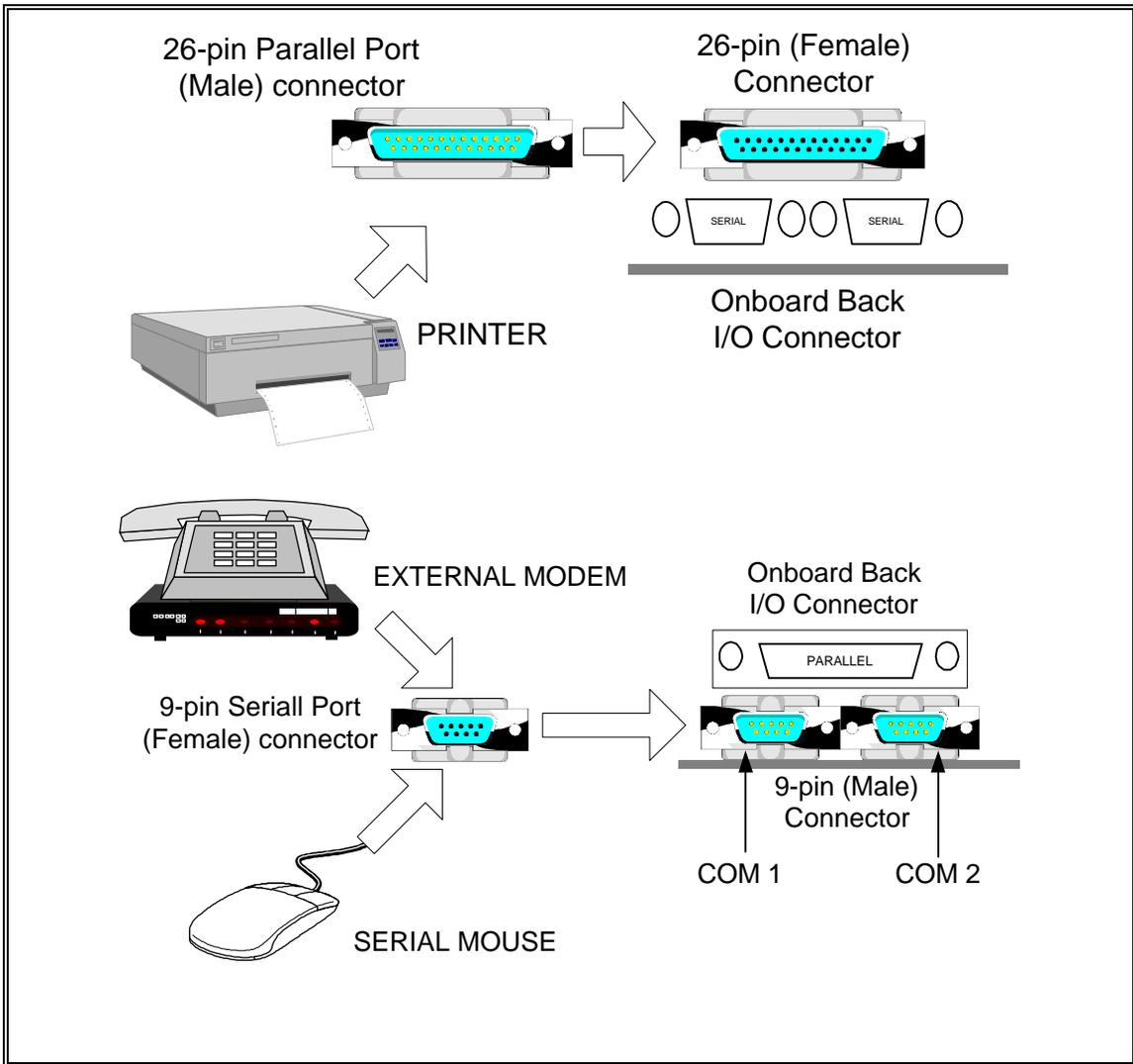


Fig. 8 I/O Back Panel Connector Installation Diagram for Serial and Parallel Ports

Chapter 2

AMIBIOS Setup

AMIBIOS Setup is a setup program to access the system information stored in CMOS RAM.

Starting AMIBIOS Setup

As POST executes, the following appears:

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

Press to run AMIBIOS Setup.

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** 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*.

1ST Boot Device

This option sets the type of device for the first boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The settings are *Disabled*, *Network*, *Floptical*, *SCSI*, *CDROM*, *IDE-0*, *IDE-1*, *IDE-2*, or *IDE-3*. The Optimal and Fail-Safe default settings are *IDE-0*.

2nd, 3rd and 4th Boot Device

This option sets the type of device for the second boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The settings are *Disabled*, *Floppy*, or *IDE-0*. The Optimal and Fail-Safe default settings are.

Try Other Boot Devices

Set this option to *Yes* to instruct AMIBIOS to attempt to boot from any other drive in the system if it cannot find a boot drive among the drives specified in the **1st Boot Device**, **2nd Boot Device**, **3rd Boot Device**, and **4th Boot Device** options.

Initial Display Mode

This option specifies the initial display mode when the system boots. The settings are:

Setting	Description
<i>BIOS</i>	The messages that AMIBIOS displays before booting the system will appear on the system monitor.
<i>Silent</i>	The messages that AMIBIOS displays will not appear on the system monitor.

Display Mode At Add-On ROM Init

This option specifies the system display mode that is set at the time that AMIBIOS POST initializes an optional option ROM. The settings are:

Setting	Description
<i>Force BIOS</i>	The display mode currently being used by AMIBIOS is used.
<i>Keep Current</i>	The current display mode is used.

Floppy Access Control

This option specifies the read/write access that is set when booting from a floppy drive. The settings are *Read/Write* or *Read-Only*. The Optimal and Fail-Safe default settings are *Read/Write*.

Hard Disk Access Control

This option specifies the read/write access that is set when booting from a hard disk drive. The settings are *Read/Write* or *Read-Only*. The Optimal and Fail-Safe default settings are *Read/Write*.

S.M.A.R.T. For Hard Disks

Set this option to *Enabled* to permit AMIBIOS to use the SMART (System Management System Management and Reporting Technologies) protocol for reporting server system information over a network. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe 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*.

Boot Up CPU Speed

This option lets you specify the CPU speed at system boot. The settings are *Low* or *High*. The Optimal and Fail-Safe default settings are *High*.

Cont'd

Advanced Setup, Continued

Boot Up Num Lock Set this option to *Off* to turn the Num Lock key off when the computer is booted so you can use the arrow keys on both the numeric keypad and the keyboard. The settings are *On* or *Off*. The default settings are *On*.

Turbo Switch Set this option to *Enabled* to permit AMIBIOS to control the hardware turbo (speed) switch. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Floppy Drive Swap 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 Set this option to *Enabled* to specify that floppy drive A: will perform a Seek operation at system boot. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

PS/2 Mouse Support Set this option to *Enabled* to enable AMIBIOS support for a PS/2-type mouse. Pins 2-3 of the PS/2 Mouse Selector jumper on the motherboard must be shorted together to enable PS/2 mouse support. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

Typematic Rate This option sets the rate at which characters on the screen repeat when a key is pressed and held down. The settings are *Slow* or *Fast*. The Optimal and Fail-Safe default settings are *Fast*.

Cont'd

Advanced Setup, Continued

System Keyboard This option does not specify if a keyboard is attached to the computer. Rather, it specifies if error messages are displayed if a keyboard is not attached. This option permits you to configure workstations with no keyboards. The settings are *Absent* or *Present*. The Optimal and Fail-Safe default settings are *Present*.

Primary Display This option configures the type of monitor attached to the computer. The settings are *Mono*, *CGA40x25*, *CGA80x25*, *VGA/EGA*, or *Absent*. The Optimal and Fail-Safe default settings are *VGA/EGA*.

Password Check This option enables password checking every time the system boots or when you run AMIBIOS Setup. If *Always* is chosen, a user password prompt appears every time the computer is turned on. If *Setup* is chosen, the password prompt appears if AMIBIOS is executed. See the Advanced Setup chapter for instructions on changing a password. The Optimal and Fail-Safe defaults are *Setup*.

Parity Check Set this option to *Enabled* to check the parity of all system memory. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Boot To OS/2 Set this option to *Enabled* if running OS/2 operating system and using more than 64 MB of system memory on the motherboard. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Cont'd

Advanced Setup, Continued

Wait for <F1> If Error AMIBIOS POST runs system diagnostic tests that can generate a message followed by:

Press <F1> to continue

If this option is set to *Enabled*, AMIBIOS waits for the end user to press <F1> before continuing. If this option is set to *Disabled*, AMIBIOS continues the boot process without waiting for <F1> to be pressed. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

Hit Message Display Set this option to *Disabled* to prevent

Hit if you want to run Setup

from appearing when the system boots. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

CPU Selection This option selects the type of CPU install in the motherboard. The settings are *Auto* (AMIBIOS automatically determines the CPU type) or *Intel*. The Optimal and Fail-Safe default settings are *Auto*.

CPU Microcode Update Set this option to *Enabled* to permit the CPU to be updated online at any time. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

Internal Cache This option sets the type of caching algorithm used by the L1 internal cache memory on the CPU. The settings are *WriteBack*, *WriteThru*, or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

External Cache This option sets the type of caching algorithm used for the L2 secondary (external) cache memory. The settings are *WriteBack*, *WriteThru*, or *Disabled*. The Optimal default setting is *Disabled*. The Fail-Safe default setting is *Disabled*.

Cont'd

Advanced Setup, Continued

System BIOS Cacheable When set to *Enabled*, the contents of the F0000h system memory segment can be read from or written to cache memory. The contents of this memory segment are always copied from the BIOS ROM to system RAM for faster execution. The settings are *Enabled* or *Disabled*. The Optimal default setting is *Enabled*. The Fail-Safe default setting is *Disabled*.

C000,16K Shadow

C400,16K Shadow These options specify how the 32 KB of video ROM at C0000h is treated. The settings are:

Setting	Description
<i>Disabled</i>	The contents of the video ROM are not copied to RAM.
<i>Enabled</i>	The contents of the video ROM area from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.
<i>Cached</i>	The contents of the video ROM area from C0000h - C7FFFh are copied from ROM to RAM and can be written to or read from cache memory.

The Optimal and Fail-Safe default settings are *Cached*.

C800,16K Shadow**CC00,16K Shadow****D000,16K Shadow****D400,16K Shadow****D800, 16K Shadow**

DC00,16K Shadow These options enable shadowing of the contents of the ROM area named in the option. The ROM area not used by ISA adapter cards is allocated to PCI adapter cards. The settings are:

Setting	Description
<i>Disabled</i>	The contents of the video ROM are not copied to RAM.
<i>Cached</i>	The contents of the video ROM area from C0000h - C7FFFh are copied from ROM to RAM and can be written to or read from cache memory.
<i>Enabled</i>	The contents of the video ROM area from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.

The Optimal and Fail-Safe default settings are *Cached*.

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.

USB Function Set this option to *Enabled* to enable USB (Universal Serial Bus) support. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

USB Keyboard/Mouse Legacy Support Set this option to *Enabled* to enable support for older keyboards and mouse devices if the **USB Function** option is set to *Enabled*. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

EDO DRAM Speed (ns) This option specifies the RAS Access Time in nanoseconds for the EDO DRAM system memory installed in this computer. The settings are *Auto* (AMIBIOS automatically determines the RAS access Time parameter), *Manual*, *50*, *60*, or *70*. The Optimal and Fail-Safe default settings are *Auto*.

EDO Read Burst Timing This option specifies the timings for EDO DRAM system memory for Read operations in burst mode. The settings are *x222* or *x333*. The Optimal and Fail-Safe default settings are *x333*.

EDO Write Burst Timing This option specifies the timings for EDO DRAM system memory for Write operations in burst mode. The settings are *x222* or *x333*. The Optimal and Fail-Safe default settings are *x333*.

Cont'd

Chipset Setup, Continued

EDO RAS Precharge This option specifies the length of the RAS precharge part of the DRAM system memory access cycle when EDO DRAM system memory is installed in this computer. The settings are *3 CLKs* or *4 CLKs*. The Optimal and Fail-Safe default settings are *4 CLKs*.

EDO RAS To CAS This option specifies the length of the delay inserted between the RAS and CAS signals of the DRAM system memory access cycle when EDO DRAM system memory is installed in this computer. The settings are *2 CLKs* or *3 CLKs*. The Optimal and Fail-Safe default settings are *3 CLKs*.

MA Wait State This option specifies the length of the delay inserted between MA signals. The settings are *Slow* or *Fast*. The Optimal and Fail-Safe default settings are *Slow*.

SDRAM Timing Latency This option specifies the latency for the Synchronous DRAM system memory signals. The settings are *Auto* (AMIBIOS automatically determines the optimal delay) or *Manual*. The Optimal and Fail-Safe default settings are *Auto*.

RAS To CAS This option specifies the length of the delay inserted between the RAS and CAS signals of the DRAM system memory access cycle. The settings are *2 CLKs* or *3 CLKs*. The Optimal and Fail-Safe default settings are *3 CLKs*.

CAS Lat. This option sets the latency period for the CAS signal. The settings are *2 CLKs* or *3 CLKs*. The Optimal and Fail-Safe default settings are *3 CLKs*.

RAS Precharge This option specifies the length of the RAS precharge part of the DRAM system memory access cycle when EDO DRAM system memory is installed in this computer. The settings are *3 CLKs* or *4 CLKs*. The Optimal and Fail-Safe default settings are *4 CLKs*.

Cont'd

Chipset Setup, Continued

VGA Frame Buffer USWC Set this option to *Enabled* to enable the VGA video frame buffer using USWC (Uncacheable, Speculatable, Write-Combined) memory. The settings are *Enabled* or *Disabled*. Older ISA VGA card drivers may not behave correctly if this option is not set to *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

PCI Frame Buffer USWC Set this option to *Enabled* to enable the USWC memory attribute and improve video performance when a PCI video adapter is installed. However, VGA card drivers may not behave correctly when this option is set to *Enabled*. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe defaults are *Disabled*.

DRAM Integrity Mode This option sets the type of system memory checking. The settings are:

Setting	Description
<i>Non ECC</i>	No error checking or error reporting is done.
<i>ECC Only</i>	Multibit errors are detected and reported as parity errors. Single-bit errors are corrected by the chipset. Corrected bits of data from memory are not written back to DRAM system memory. If <i>Level 1</i> is selected, the J25 External SMI software jumper on the Series 745 board is disabled.
<i>ECC</i>	Multibit errors are detected and reported as parity errors. Single-bit errors are corrected by the chipset and are written back to DRAM system memory. If a soft (correctable) memory error occurs, writing the fixed data back to DRAM system memory will resolve the problem. Most DRAM errors are soft errors. If a hard (uncorrectable) error occurs, writing the fixed data back to DRAM system memory does not solve the problem. In this case, the second time the error occurs in the same location, a Parity Error is reported, indicating an uncorrectable error. If <i>ECCI</i> is selected, AMIBIOS automatically enables the System Management Interface (SMI) is enabled. If you do not want to enable power management, set the Power Management/APM option to <i>Disabled</i> and set all Power Management Setup timeout options to <i>Disabled</i> . To enable power management, set Power Management/APM to <i>Enabled</i> and set the power management timeout options as desired.

Cont'd

Chipset Setup, Continued

Fixed Memory Hole This option specifies the location of an area of memory that cannot be addressed on the ISA bus. The settings are *Disabled*, *15 MB-16 MB*, or *512KB-640KB*. The Optimal and Fail-Safe default settings are *Disabled*.

TypeF DMA BufferControl1

TypeF DMA Buffer Control2 These options specify the DMA channel where TypeF buffer control is implemented. The settings are *Disabled*, *Channel-0*, *Channel-1*, *Channel-2*, *Channel-3*, *Channel-5*, *Channel-6*, or *Channel-7*. The Optimal and Fail-Safe default settings are *Disabled*.

DMA-0 Type

DMA-1 Type

DMA-2 Type

DMA-3 Type

DMA-5 Type

DMA-6 Type

DMA-7 Type

These options specify the bus that the specified DMA channel can be used on. The settings are *PC/PCI*, *Distributed*, or *Normal ISA*. The Optimal and Fail-Safe default settings are *Normal ISA*.

AGP Aperture Size This option specifies the amount of system memory that can be used by the Accelerated Graphics Port (AGP). The settings are *4 MB*, *8 MB*, *16 MB*, *32 MB*, *64 MB*, *128 MB*, or *256 MB*. The Optimal and Fail-Safe default settings are *256 MB*.

System Type This option sets the system type. The settings are *Auto* (AMIBIOS automatically determines the system type), *DP*, or *UP*. The Optimal and Fail-Safe default settings are *Auto*.

Cont'd

Chipset Setup, Continued

USWC Write I/O Post This option sets the status of USWC posted writes to I/O. The settings are:

Settings	Description
<i>Enabled</i>	USWC posted writes to I/O are enabled.
<i>Disabled</i>	USWC posted writes to I/O are disabled.
<i>Auto</i>	AMIBIOS automatically determines if USWC posted writes to I/O should be enabled and sets this option accordingly.

The Optimal and Fail-Safe default settings are *Auto*.

MECC Buf. Strength This option sets the strength of the signal for the MECC buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

MD Buf. Strength This option sets the strength of the signal for the MD buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

WE Buf. Strength This option sets the strength of the signal for the WE buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

MAX Buf. Strength This option sets the strength of the signal for the MAX buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

MA Buf. Strength This option sets the strength of the signal for the MA buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

Cont'd

Chipset Setup, Continued

MA Buf. Strength This option sets the strength of the signal for the MA buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

SCAS3 Buf. Strength This option sets the strength of the signal for the SCAS3 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

SCAS2:0 Buf. Strength This option sets the strength of the signal for the SCAS2:0 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

SRAS3 Buf. Strength This option sets the strength of the signal for the SRAS3 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

SRAS2:0 Buf. Strength This option sets the strength of the signal for the SRAS2:0 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

DQMX5 Buf. Strength This option sets the strength of the signal for the DQMX5 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

Cont'd

Chipset Setup, Continued

DQMX1 Buf. Strength This option sets the strength of the signal for the DQMX1 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

DQM Buf. Strength This option sets the strength of the signal for the DQM buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *42mA*, *38mA*, or *33mA*. The Optimal and Fail-Safe default settings are *Auto*.

CSX Buf. Strength This option sets the strength of the signal for the CSX buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

CS7:6 Buf. Strength This option sets the strength of the signal for the CS7:6 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

CS5:0 Buf. Strength This option sets the strength of the signal for the CS5:0 buffer. The settings are *Auto* (AMIBIOS automatically determines the correct setting), *48mA*, *42mA*, or *22mA*. The Optimal and Fail-Safe default settings are *Auto*.

PAC Bus SERR# Set this option to *Enabled* to enable the SERR# signal on the PAC bus. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

AGP Common SERR# Set this option to *Enabled* to permit a common SERR# signal for AGP and the standard PC bus. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

Cont'd

Chipset Setup, Continued

AGP System Error Forwarding Set this option to *Enabled* to enable AGP system errors to be forwarded. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

AGP Parity Error Response Set this option to *Enabled* to enable AGP parity error response. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

IRQ12 This option specifies how IRQ12 is used. The settings are:

Setting	Description
Auto	AMIBIOS automatically determines how IRQ12 should be allocated.
Standard	IRQ12 is made available for use on the ISA bus.
Mouse	IRQ12 is used by the PS/2 mouse.

The Optimal and Fail-Safe default settings are *Auto*.

PIIX4 SERR# Set this option to *Enabled* to enable the SERR# signal for the Intel PIIX4 chip. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

USB Passive Release Enable Set this option to *Enabled* to enable passive release for USB. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

PIIX4 Passive Set this option to *Enabled* to enable passive release for the Intel PIIX4 chip. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

PIIX4 Delayed Transaction Set this option to *Enabled* to enable delayed transactions for the Intel PIIX4 chip. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

Cont'd


Chipset Setup, Continued

Master Lat. Timer This option specifies the latency for the Timer. The settings are 00h through F8h in increments of 08h. The settings are 00h.

Master Lat. Timer This option specifies the latency for the Timer. The settings are 00h through F8h in increments of 08h. The settings are 00h.

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.

Power Button Function This option specifies how the power button mounted externally on the computer chassis is used. The settings are:

Setting	Description
On/Off	Pushing the power button turns the computer on or off.
Suspend	Pushing the Power button places the computer in Suspend mode or Full On power mode.

The Optimal and Fail-Safe default settings are *On/Off*.



Instant On Support Set this option to *Enabled* to enable AMIBIOS support for the Intel InstantON specification. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Green PC Monitor Power State This option specifies the power state that the green PC-compliant video monitor enters when AMIBIOS places it in a power saving state after the specified period of display inactivity has expired. The settings are *Off*, *Standby*, *Suspend*, or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Video Power Down Mode This option specifies the power state that the video subsystem enters when AMIBIOS places it in a power saving state after the specified period of display inactivity has expired. The settings are *Standby*, *Suspend* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Cont'd

Power Management Setup, Continued

Hard Disk Power Down Mode This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The Optimal and Fail-Safe default settings are *Disabled*.

Hard Disk Timeout This option specifies the length of a period of hard disk drive inactivity. When this length of time expires, the computer enters power-conserving state specified in the **Hard Disk Power Down Mode** option (see the previous page). The settings are *Disabled*, *1 min. (minute)*, *2 min.*, *3 min.*, *4 min.*, *5 min.*, *6 min.*, *7 min.*, *8 min.*, *9 min.*, *10 min.*, *11 min.*, *12 min.*, *13 min.*, *14 min.*, and *15 min.* The Optimal and Fail-Safe default settings are *Disabled*.

Standby/Suspend Timer Unit This option specifies the unit of time used for the Standby and Suspend timeout periods. The settings are *4 msec*, *4 sec*, *32 sec*, or *4 min*. The Optimal and Fail-Safe default settings are *4 min*.

Standby Timeout This option specifies the length of a period of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby power state. The settings are *Disabled*, *4 msec*, *8 msec*, *12 msec*, *16 msec*, *up to 508 msec*, *in increments of 4 msec*. The Optimal and Fail-Safe default settings are *Disabled*.

Suspend Timeout This option specifies the length of a period of system inactivity while in Standby state. When this length of time expires, the computer enters Suspend power state. The settings are *Disabled*, *4 msec*, *8 msec*, *12 msec*, *16 msec*, *up to 508 msec*, *in increments of 4 msec*. The Optimal and Fail-Safe default settings are *Disabled*.

Cont'd

Power Management Setup, Continued

Slow Clock Ratio This option specifies the speed at which the system clock runs in the Standby Mode power saving state. The settings are expressed as a percentage between the normal CPU clock speed and the CPU clock speed when the computer is in the power-conserving state. The settings are *0-12.5%*, *12.5-25%*, *25-37.5%*, *37.5-50%*, *50-62.5%*, *62.5-75%*, or *75-87.5%*. The Optimal and Fail-Safe default settings are *50-62.5%*.

Display Activity When set to *Monitor*, this option enables event monitoring on the video display. If set to *Monitor* and the computer is in a power saving state, AMIBIOS watches for display activity. The computer enters the Full On state if any activity occurs. AMIBIOS reloads the Standby and Suspend timeout timers if display activity occurs. The settings are *Monitor* or *Ignore*. The Optimal and Fail-Safe default settings are *Ignore*.

Power Management Setup, Continued

Device 6 (Serial Port 1)

Device 7 (Serial Port 2)

Device 8 (Parallel Port)

Device 5 (Floppy Disk)

Device 0 (Primary Master IDE)

Device 1 (Primary Slave IDE)

Device 2 (Secondary Master IDE)

Device 3 (Secondary Slave IDE) When set to *Monitor*, these options enable event monitoring on the specified hardware interrupt request line. If set to *Monitor* and the computer is in a power saving state, AMIBIOS watches for activity on the specified IRQ line. The computer enters the Full On state if any activity occurs. AMIBIOS reloads the Standby and Suspend timeout timers if activity occurs on the specified IRQ line.

The settings for each of these options are *Monitor* or *Ignore*. The Optimal and Fail-Safe default settings are *Ignore*.

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 Steaminging

Set this option to Enabled to enable PCI Steaminging 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*.

Allocate IRQ To PCI VGA

Set this option to *Yes* to allocate an IRQ to the VGA device on the PCI bus. The settings are *Yes* or *No*. The Optimal and Fail-Safe default settings are *Yes*.

PCI IDE Bus Master

Set this option to *Enabled* to specify that the IDE controller on the PCI bus has bus mastering capability. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

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**.

IR Duplex Mode This option specifies the type of duplexing used for infrared on serial port 2. This option only appears if the **Onboard Serial Port2** option is not set to **Auto** or **Disabled**. The settings are *Half* or *Full*. There are no default settings.

IR Transmitter This option specifies the type of transmission used by the infrared devices attached to serial port 2. This option only appears if the **Onboard Serial Port2** option is not set to **Auto** or **Disabled**. The settings are *1.6 uS* or *3/16 Baud*. There are no default settings.

IR Mode This option specifies type of infrared devices supported by the system. This option only appears if the **Onboard Serial Port2** option is not set to **Auto** or **Disabled**. The settings are *Encoded* or *Non-Encoded*. There are no default settings.

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 disable 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)		