KA31

MAINBOARD MANUAL

Handling Precautions

> **Warning:**
> 1. Static electricity may cause damage to the integrated circuits on the mainboard. Before handling any motherboard outside of its protective packaging, ensure that your body is not electrostatiscally charged.
> 2. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type of battery as recommended by the manufacturer.
> 3. Discard used batteries according to the manufacturer's instructions.

Observe the following basic precautions when handling the motherboard or other computer components:

■ Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.

■ Touch a grounded or anti-static surface or a metal fixture such as a water pipe.

■ Ensure add-on cards, mainboards, and models do not come into contact with the golden fingers connectors, plugged into the expansion slot.

The above methods prevent static build-up and allow it to be discharged properly.

Trademark

All trademarks mentioned in this manual are registered property of the respective owners.

Handling Precautions

This manual may not, in whole or in part, be photocopied, reproduced, transcribed, translated, or transmitted in whatever form without the written consent of the manufacturer, except for copies retained by the purchaser for personal archival purposes.

Overview

The new 1stMainboard KA31 is a Micro ATX sized Slot 1 motherboard sup-
porting a range of Intel® Celeron ™and Pentium® II and III processors at
speeds up to 750MHz, with 66, 100 and 133 MHz Front Side Bus support. The
KA31 is based around the VIA Apollo Pro 694X North-Bridge and the VIA
Super South. The North Bridge supports AGP 4 x bandwidth which enables
the increase of AGP bus from 66 to 133 MHz, providing greatly improved data
transfer speeds for graphics as well as reducing power consumption. The VIA
Super South is equipped with Sound Blaster Pro, providing exceptional
onboard audio capabilities.

Featuring the Ultra DMA/66 protocol and it's high speed interface, the KA31
allows for high data transfer speeds necessary for long sequential transfers
required to run audio/visual applications.

The KA31 is equipped with the new NOVUS range of innovative features
features such as *EasyKey,* which provides instant keyboard access to the
BIOS for adjustments to Clock and Default settings, and *LogoGenie,* which
allows you to create your own customized logo to be displayed during system
boot up. The *BIOS Guardian* is an Anti Virus utility that prevents viruses from
damaging your system BIOS and rendering your system inoperative.

The KA31 comes with a versatile range of I/O features such as 2 serial ports,
1 parallel port, 1 PS/2 mouse and keyboard connector, 2 USB connectors, 1
USB pin supporting 4 USB ports (mfg option) for easy plug and play connec-
tivity and 1 media connector.

3 DIMM modules provide up to 1.5 GB SDRAM, while additional expansion is
provided through 1 AGP, 3 PCI, and 1 ISA slots.

Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

- Ö The mainboard
- Ö This user manual
- Ö One floppy disk drive cable
- Ö One HDD cable
- Ö Software utilities

The KA31 Mainboard

ISA Slot **3 PCI Slots** **AGP Slot** **Integrated I/O Connectors**

Flash BIOS ROM **South Bridge** **Secondary IDE/ Primary IDE Connector** **North Bridge** **Floppy Drive Connector** **3 DIMM Sockets**
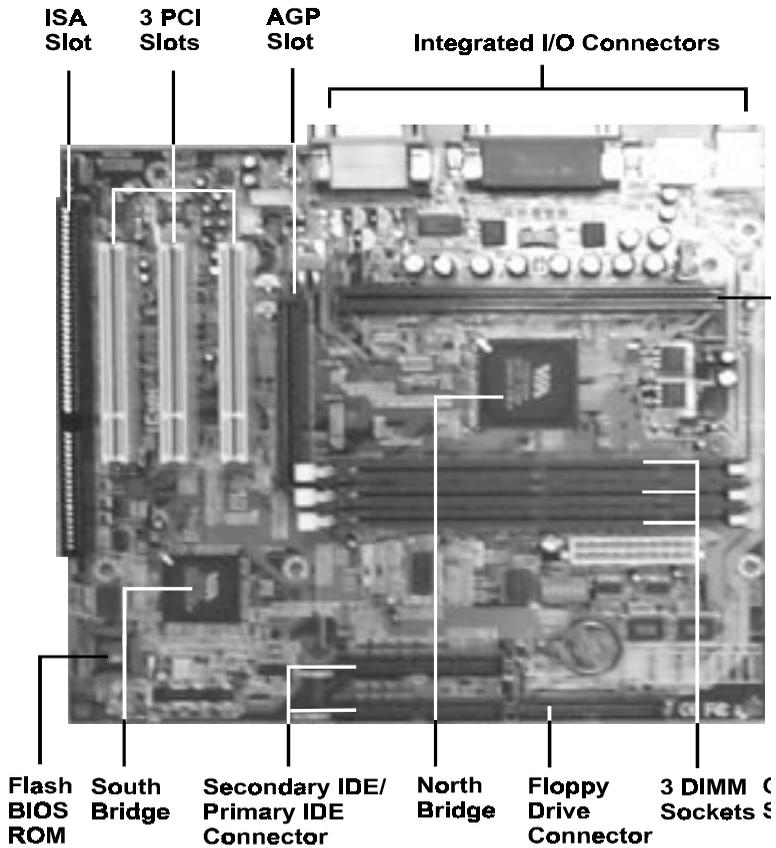
Main Features

■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, Windows 95, Windows 98/98 SE, Windows 2000, and OS/2.

■ Leading Edge Chipset

VIA Apollo Pro 694X and 686A provide integrated DRAM controllers with new Dynamic Power Management Architecture (DPMA), concurrent PCI (2.0/2.1), AGP 1.0 compliant and USB.

■ Flexible Processor Support

Onboard CPU Slot supports:
Intel® Pentium® III 450-733+ MHz at 100/133 Front Side Bus
Intel Pentium® II 233-450 MHz at 66/100 Front Side Bus
Intel® Celeron™ 266-433 MHz at 66 MHz Front Side Bus
Intel® Celeron™ PPGA 300-500+ MHz at 66 Front Side Bus via CPU converter card.

■ Versatile Main Memory Support

Accepts up to 1.5 GB DRAM using three DIMMs of 16, 32, 64, 128, 256, 512MB with support for lightning-fast SDRAM (100/133MHz). For 133 MHz SDRAMs, the latest Virtual Channel Memory (VCM) SDRAM also supported.

■ Enhanced PCI Bus Master IDE Controller with Ultra DMA/33 and Ultra DMA/66 Support

Integrated Enhanced PCI Bus Master IDE controller features two dual-channel connectors that accept up to four Enhanced IDE devices, including CD-ROM and Tape Backup Drives, as well as Hard Disk Drives supporting the new Ultra DMA/66 protocol. Standard PIO Mode 3, PIO Mode 4, DMA Mode 2, DMA Mode 4 devices are also supported.

■ AGP, ISA, and PCI Expansion Slots

One AGP Bus expansion slot, three PCI Bus expansion slots, and one ISA Bus provide the room to install a full range of add-on cards.

■ Super Multi Input/Output (I/O) Support

Integrated Plug and Play multi-I/O chipset features one high-speed UART 16550 compatible serial port, one infrared port, one EPP/ECP capable parallel port, and one FDD connector.

■ Convenient Rear Panel USB Connection Support

Two USB ports integrated in the rear I/O panel with one manufacturing optional USB connector for front panel connection allow convenient and high-speed Plug and Play connections to the growing number of USB compliant peripheral devices on the market.

■ Remote Wake On LAN Support

Onboard Wake On LAN (WOL) connector allows remote management on your network even when the system is powered off. The feature provides a more simple and convenient control for LAN-based networks.

■ Onboard Accelerated Graphics Port (AGP)

The motherboard is installed with one 32-bit AGP bus with a dedicated 66MHz/133MHz path from the graphics card to the system memory (in 4x mode), offering much greater bandwidth than the 32-bit PCI bus. The board is fully compliant with the AGP 1.0 specification. AGP enabled 3D graphics cards can directly access main memory across this fast path instead of using local memory. To make use of the improved AGP performance, the motherboard should be installed with SDRAM type memory and the VGA card Drivers should also be fully AGP compliant. Using Microsoft's Windows 98 and Windows 2000 which implement DirectDraw will allow the system to take full use of AGP's benefits without the need to install additional drivers.

ACPI Ready

This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0 Hardware and BIOS requirement. If you install a ACPI aware operating system, such as Windows 98/98 SE, you can fully utilize the power saving features under ACPI.

The mainboard is compatible with all other non ACPI-aware operating systems. If you want to setup ACPI features under Windows 98, please follow the instructions below:

Run Windows 98 setup by using **setup/p j** on the command line for installing Windows 98 with the ACPI control features.

If you type **setup** without the parameter **/p j**, Windows 98 will be installed as APM, PnP mode, no ACPI will be used.

For more detailed information, please visit the web site of Microsoft. The URL is : www.microsoft.com/hwtest/.

FIC Unique Innovation for Users (NOVUS) -
Enhanced Mainboard Features and System Support

■ LogoGenie

A user friendly GUI supporting Windows 98, LogoGenie allows you to customize, create or select a Logo which will be displayed when the system is booting.

IMPORTANT: Before executing this LogoGenie function, please make sure the related BIOS feature, BIOS Guardian, is disabled; and refer to its related README file.

To enable this utility, please proceed as follows:
1. Insert CD Pro 4.0+. Select LogoGenie from the Menu and follow the installation instructions.
2. After LogoGenie has been installed, go to Windows Start Box.
   In Programs Menu, select LogoGenie.
   Click through the three check boxes in the pop-up menu to ensure the BIOS feature (*BIOS Guardian*) and other anti-virus software are disabled. Read README file carefully.
3. In the LogoGenie Dialogue Box, choose one of 3 options; and then proceed as per steps 4 or 5 listed on the left hand side of the Dialogue Box.
4. After completing the last step, press OK. The system will reboot to restore the BIOS with your new customized Logo.
5. The system will automatically restart with your customized Logo that appears in background.

WARNING: To avoid BIOS damage do not turn off system power while executing step 3 below.

■ BIOS Guardian

BIOS Guardian by default is enabled. It must be disabled in order to reflash BIOS, thus effectively acting as a fire-wall against viruses that can attack the BIOS while the system is running.

BIOS Guardian can be disabled as follows:
1. Go to BIOS Set Up Menu.
2. Go to Chipset Features Set Up Submenu.
3. Disable BIOS Guardian.
4. Save the setting, and restart system.

NOTE: If BIOS Guardian is disabled in the boot process, the POST screen will show the current BIOS Guardian Status.
Press **G** key to enable the BIOS Guardian again; or simply press the space bar to continue the boot process.

KA31 Mainboard Manual

Chapter 1
Overview

■ Easy Key

Instead of completing the multi-layered BIOS setup process these 3 Easy Key functions provide direct access to Sub-Menus when completing BIOS settings adjustments.

Easy-Keys are as follows:

Ctrl + c: To enter clock settings menu.
Ctrl + p: To load Performance Default settings and restart.
Ctrl + f: To load Fail-Safe Default settings and restart.

■ Overclock Partner

Should the system not start because clock speed settings have been increased to a speed incompatible with the system, the Overclock Partner allows you to reboot at system default settings, protecting hardware from any damages caused by changes to the BIOS.

Complete the following steps:
1. Turn the system off.
2. Restart while holding down the Insert key. It is important that the Insert Key is held down until the default clock speed is shown on the POST screen.
3. Enter the BIOS Setting Menu, and re-set clock to speed desired or default.

1 - 8

Installation Procedures

The KA31 has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - **Set system jumpers**
- Step 2 - **Install system RAM modules**
- Step 3 - **Install the Central Processing Unit (CPU)**
- Step 4 - **Install expansion cards**
- Step 5 - **Connect ribbon cables, cabinet wires, and power supply**
- Step 6 - **Set up BIOS software** (see Chapter Three)
- Step 7 - **Set up supporting software tools**

**Chapter 2
Installation
Procedures**

WARNING: Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.

Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

**Chapter 2
Installation
Procedures**

QUICK REFERENCE

*This Chapter is intended to aid quick and easy installation.
In the event that more detailed information is required, please
consult the Installation Procedures Chapter.*

CPU Fan Installation — 2

USB0 (Bottom)/
USB1 (Top)

CD_IN2

GAME/MIDI   PRINTER   USB   KB/
                              MS

IR

CD_IN1

MIC_IN/LINE_IN/LINE_OUT   COM2   COM1

PS2
KEYBOARD (Bottom)/
PS2
MOUSE (Top)

CPU_FAN

ISA1   PCI3   PCI2   PCI1   AGP

SLOT1

VIA
694A

WOL

DIM3

DIM2

DIM1

POWER

VIA
686A

SW1

LITHIUM
BATTERY

BIOS
Flash
ROM

CHS_FAN

USB2

PRIMARY

FPNL

SECONDARY   FLOPPY

3 — Front Panel Black
Cable Connection

1 — CPU Frequency Se
Clear CMOS, Clear
Password

1). CPU Speed Select, Clear CMOS, Clear Password

CPU Speed (Hz)			SW1-1	SW1-2	SW1-3	SW1-4
133M	100M	66M				
466M	350M	233M	ON	ON	OFF	OFF
533M	400M	266M	ON	OFF	ON	ON
600M	450M	300M	ON	OFF	ON	OFF
667M	500M	333M	ON	OFF	OFF	ON
733M	550M	366M	ON	OFF	OFF	OFF
800M	600M	400M	OFF	ON	ON	ON
866M	650M	433M	OFF	ON	ON	OFF
933M	700M	466M	OFF	ON	OFF	ON
1G	750M	500M	OFF	ON	OFF	OFF
1066M	800M	533M	OFF	OFF	ON	ON

SW1-5 (Clear CMOS)

SW1-6 (Clear Password)

Enable (Clear CMOS)   Disable (Default)   Enable (Clear Password)   Disable (Default)

2). CPU Fan Installation

This connector is linked to the CPU fan. When the system is in suspend mode, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.

Chapter 2
Installation
Procedures

3). Front Panel Block Cable Connection
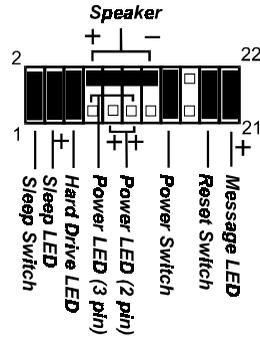
4). Load BIOS Setup Default

Load BIOS Defaults

BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance. Please note the OEM manufacturer may change the defaults through MODBIN before the binary image burns into the ROM.

Load Setup Defaults

Selecting *this* field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.
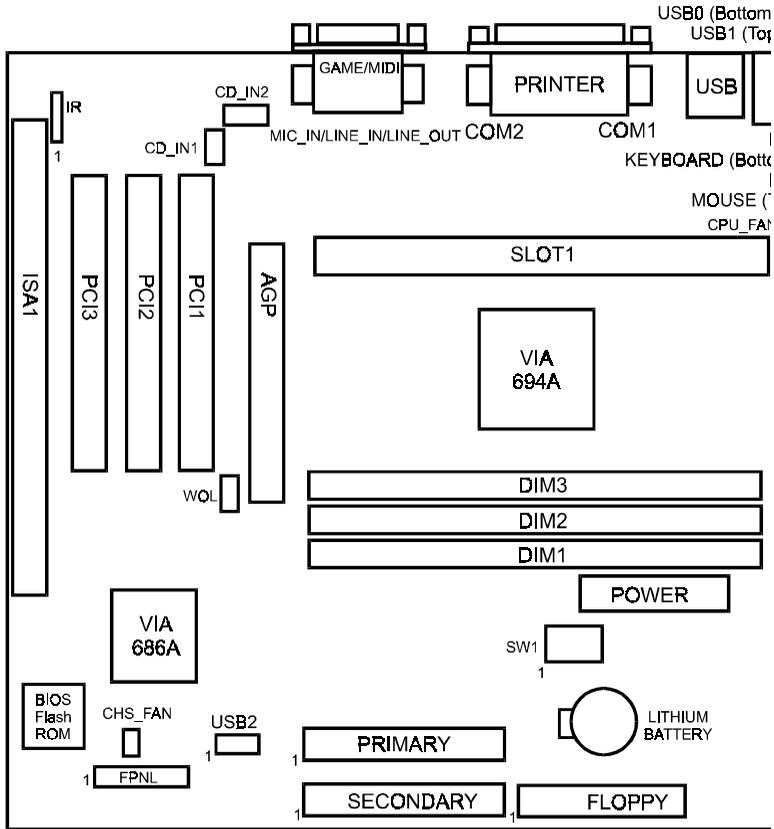
5). How to Upgrade BIOS

1. Format a bootable system floppy diskette by typing the command **format a:/s** in command mode.
2. Visit the the web site of the vendor and visit the BIOS Update page in the related Technical Support section.
3. Select the BIOS file you need and download it to your bootable floppy diskette.
4. Insert the bootable diskette containing the BIOS file into the floppy diskette drive.
5. Assuming that the floppy diskette drive is A, reboot the system by using the A: drive. At the A: > prompt, run the BIOS upgraded file by executing the Flash BIOS utility and the BIOS file with its appropriate extension.

Do not turn off or reset the computer during the flash process or there will be a problem booting up your system.

Mainboard Layout

Chapter 2 Installation Procedures

1). Set System Jumpers

Clear CMOS: SW1-5

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1) Turn off your computer. (2) Move the CMOS Clear switch SW1-5 to "On" (Enabled). (3) Turn on your computer to display "CMOS checksum error". (4) Turn off your computer. (5) Move the CMOS Clear switch SW1-5 to "Off" (Disabled). (6) Turn on your computer. (7) Hold down the **Delete** key while booting. (8) Enter the BIOS Setup to re-enter user preferences.

ON
1 2 3 4 5 6
Enable
(Clear CMOS)

ON
1 2 3 4 5 6
Disable (Default)

Pin 1
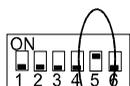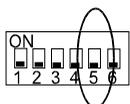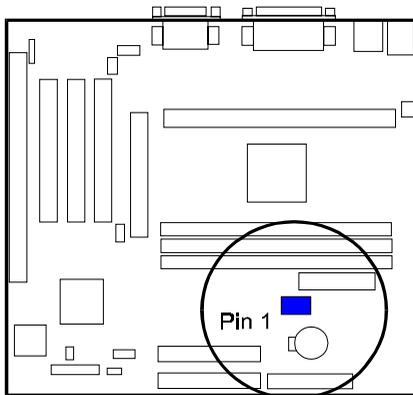
Clear Password: SW1-6

This switch allows you to enable or disable the password configuration. You may need to enable this switch by moving it to the "On" (Enabled) position if you forget your password. To clear the password setting: (1) Turn off your computer, (2) Move the Clear Password switch SW1-6 to "On" (Enabled), (3) Turn on your computer, (4) Hold down the **Delete** key during bootup and enter BIOS Setup to re-enter user preferences, (5) Turn off your computer, (6) Move the Clear Password switch SW1-6 to "Off" (Disabled), (7) Turn on your computer for the new settings to take effect.

ON
1 2 3 4 5 6
Enable
(Clear Password)
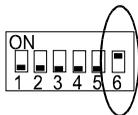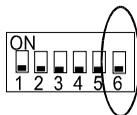
ON
1 2 3 4 5 6
Disable (Default)

2). Install RAM Modules

RAM Module Configuration

This mainboard provides three onboard DIMM sockets supporting 3.3V (un-buffered) SDRAM DIMM modules. Either 16, 32, 64, 128, 256, 512 MB DIMM can be installed on these three sockets. The maximum total memory supported is up to 1.5 GB.

Socket	Acceptable Memory Module		Total
1	16, 32, 64, 128, 256, 256, 512MB 168-pin 3.3V SDRAM	x1	
2	16, 32, 64, 128, 256, 256, 512MB 168-pin 3.3V SDRAM	x1	
3	16, 32, 64, 128, 256, 256, 512MB 168-pin 3.3V SDRAM	x1	

Total System Memory Allowed up to 1.5 GB =

NOTE: This mainboard supports DIMMs with access speeds of 12ns, 10ns, or faster. ECC memory and parity check is also supported.

Install and Remove DIMMs

1. Locate the DIMM slots on the mainboard.
2. Install the DIMM straight down into the DIMM slot using both hands.
3. The clip on both ends of the DIMM slot will close up to hold the DIMM in place when the DIMM reaches the slot's bottom.

Top View of DIMM Socket
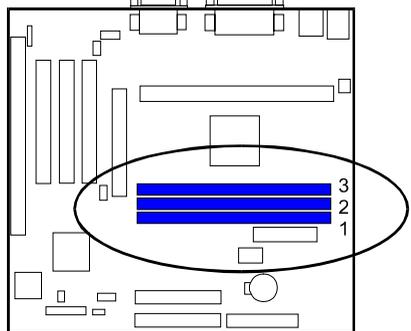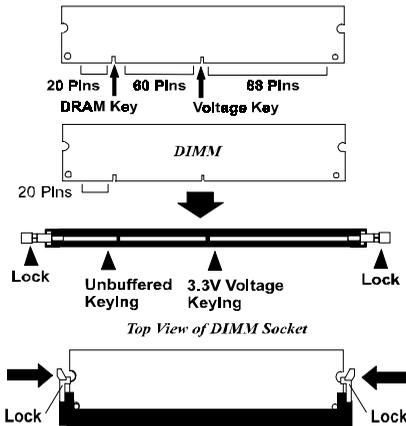
Press the clips with both hands to remove the DIMM.

3). Install the CPU

The CPU module resides in the SLOT1 on the motherboard. The Retention Mechanism Assembly that is foldable for saving space when shipping and packing had been installed on the board by the manufacturer. Please follow the steps introduced below to complete the CPU installation.

⚠️ **CAUTION:**
1. Always turn the system power off before installing or removing any device.
2. Always observe static electricity precautions. See "Handling Precautions" at the start of this manual.
3. Inserting the chip incorrectly may damage the chip.

1. Locate SLOT1 on the mainboard.
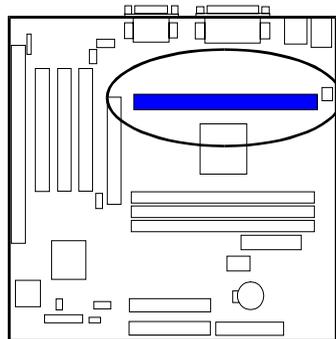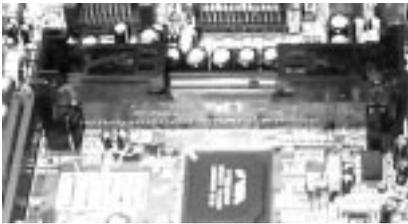
2. Pull out two columns of the Retention Mechanism Assembly upward to the right position.
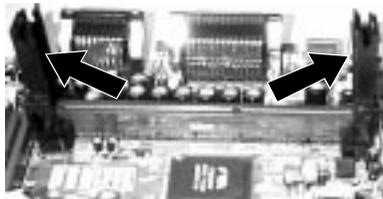
3. Insert the CPU module downward along with the columns of the Retention Mechanism Assembly until it is inserted the SLOT1 firmly.
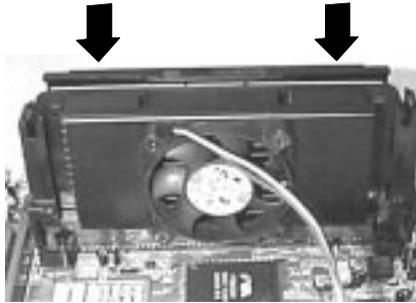
4.   Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.

5.   Connect the wire plug with the CPU fan.

CPU Frequency Selection

CPU Speed (Hz) 133M 100M 66M	SW1-1	SW1-2	SW1-3	SW1-4
466M 350M 233M	ON	ON	OFF	OFF
533M 400M 266M	ON	OFF	ON	ON
600M 450M 300M	ON	OFF	ON	OFF
667M 500M 333M	ON	OFF	OFF	ON
733M 550M 366M	ON	OFF	OFF	OFF
800M 600M 400M	OFF	ON	ON	ON
866M 650M 433M	OFF	ON	ON	OFF
933M 700M 466M	OFF	ON	OFF	ON
1G 750M 500M	OFF	ON	OFF	OFF
1066M 800M 533M	OFF	OFF	ON	ON

4). Install Expansion Cards

This section describes how to connect an expansion card to one of your system's expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. The mainboard features three PCI bus, one ISA bus and one AGP bus expansion slot.
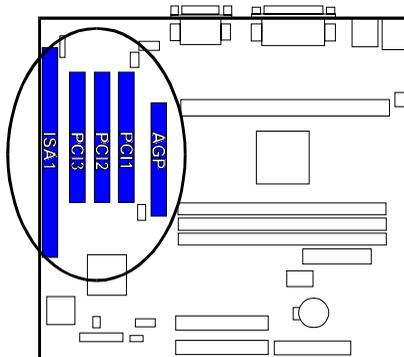
CAUTION: Please ensure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansioncards.
Always observe static electricity precautions.
Please read "Handling Precautions" at the start of this manual.

To install an expansion card, follow the steps below:

1. Remove the computer chassis cover and select an empty expansion slot.

2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot.

4. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this "rocking" motion until the add–on card is firmly seated inside the expansion slot.

5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.

6. Replace the computer system's cover.

7. Setup the BIOS if necessary.

8. Install the necessary software drivers for the expansion card.

**Chapter 2
Installation
Procedures**

5). Connect Devices

Floppy Diskette Drive Connector: FLOPPY

This connector provides the connection with your floppy disk drive.
The red stripe of the ribbon cable must be the same side with the Pin 1.
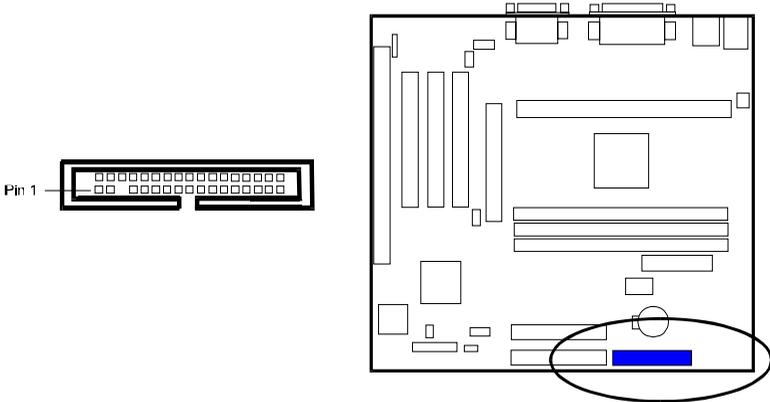
IDE HDD Device Connectors: PRIMARY, SECONDARY

These two connectors are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.

ATX Power Connector: POWER

This 20-pin male block connector is connected to the ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

NOTE: The power supply must provide +3.3V voltage.

CPU Fan Connector: CPU_FAN

This connector is linked to the CPU fan. When the system is in suspend mode, the CPU fan will turn off; when it reverts back to full–on mode, the fan will turn back on. Please refer to the CPU fan installation manual for more information.

System Case Fan Connector: CHS_FAN

The 3-pin connector onboard allows you to link with the cooling fan on the system case to lower the system temperature.
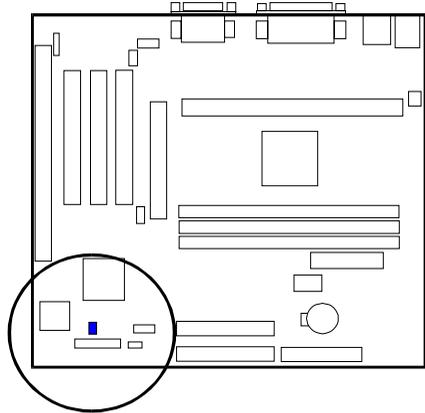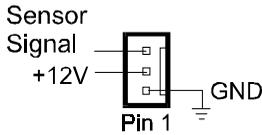
Wake-On-Lan Connector: WOL

This 3-pin connector allows system management by the removal of servers via your WOL supporting network adaptor.
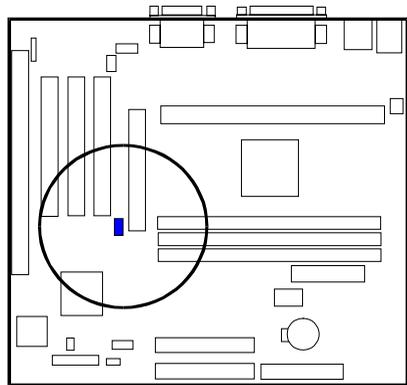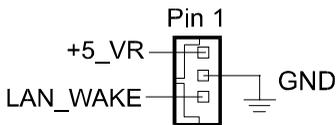
CD Audio-Out Connectors: CD_IN1, CD_IN2

These two 4-pin connectors are used for different types of the AUDIO-OUT port of your CD drive.
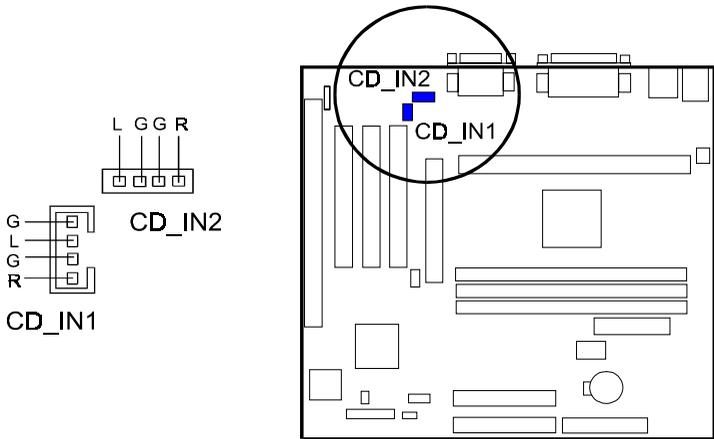
Infrared Connector: IR

This 5-pin connector is used to link with your ID device allowing transmission of data to another system that also supports the IR feature. This module mounts to a small opening on system case.
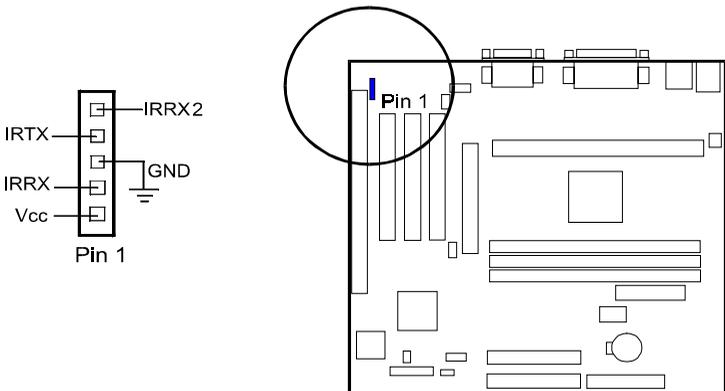
Front Panel Block Connector: FPNL

This block connector includes the connectors for linking with IDE LED, power LED, remote power button, message LED, suspend button, reset button and speaker on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs. Please ask vendor about this information when you buy them and install the system by yourself. The plug wires' polarities of these buttons will not affect the function.
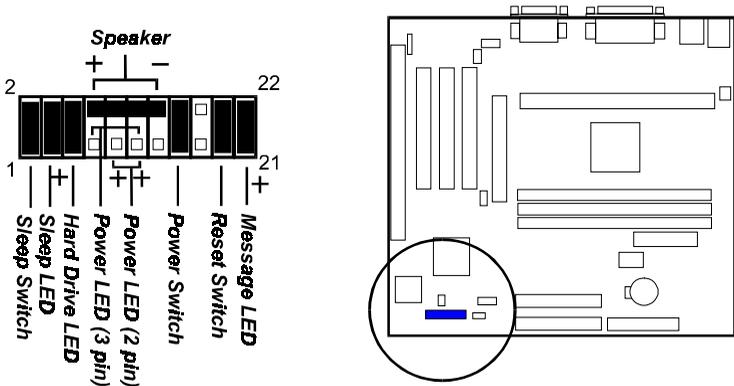
Power LED is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.

Remote Power Button is connected with remote power (soft power) switch. Push this switch This switch allows the system to be turned on and off rather than using the power supply switch.

Message LED is connected with the message LED. When the system is running normally, the indicator is off. It is controlled by the operating system or application software.

Suspend Button is connected with suspend mode switch.

Reset Button is connected to the reset switch. Push this switch to reboot the system instead of turning the power switch off and on.

Speaker is connected with the case speaker.

IDE LED is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

PS/2 Keyboard and Mouse Connector: PS2_KB, PS2_MS

These two 6-pin female connectors are used for your PS/2 keyboard and PS/2 mouse.
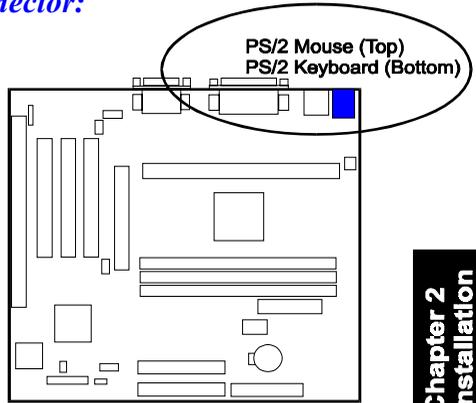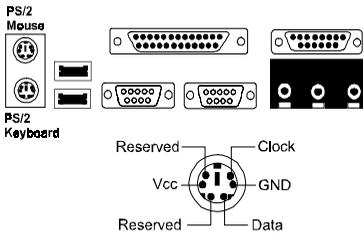
Universal Serial Bus Connectors: USB0, USB1, USB2

These two connectors integrated on the edge of the board are used for linking with USB peripheral devices. This board also provides a connector USB2 for linking with the USB socket on the front panel of some system cases. Please note your operating system must support USB features, such as MS Windows 98, MS Windows 95 OSR2.5 with USB Supplement.
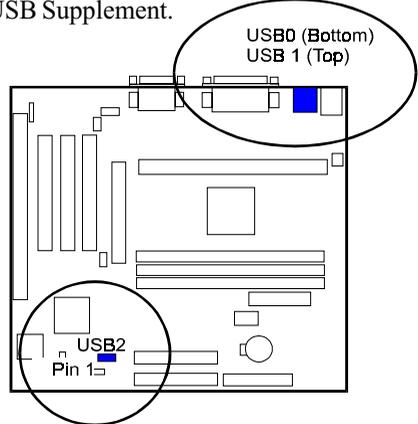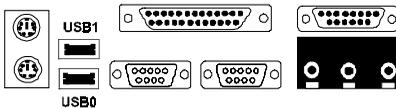
The figure below is the pin assignment of the USB2 connector for front panel USB connection.
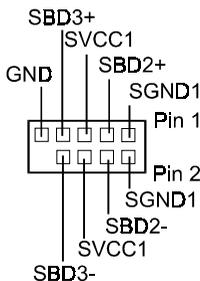
Printer Connector: LPT

This 25-pin D-Sub female connector is attached to your printer.
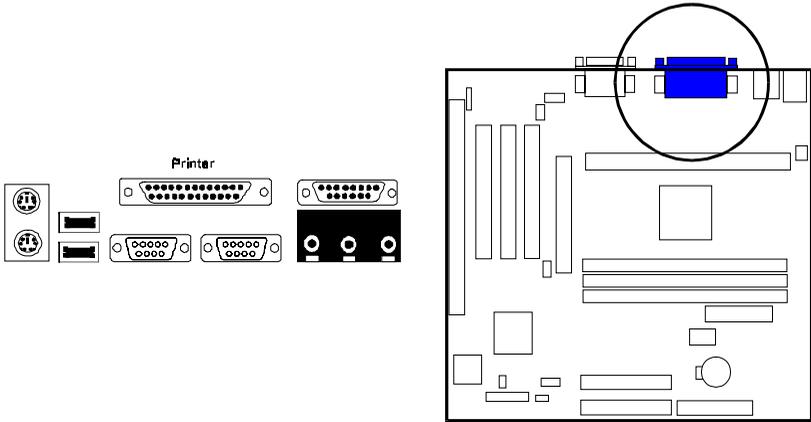
Serial Port Connectors: COM1, COM2

COM1 and COM2 allow you to connect your devices that use serial ports, such as a serial mouse or an external modem.
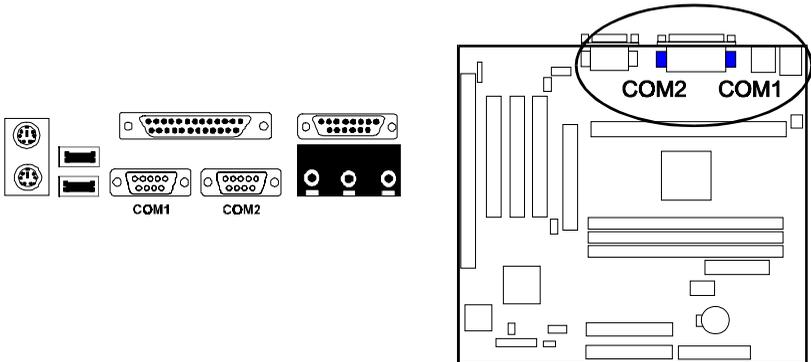
GAME/MIDI Connector: GAME

This 15-pin female connector allows you to connect game joysticks or game pads. Connect MIDI devices for playing or editing audio.
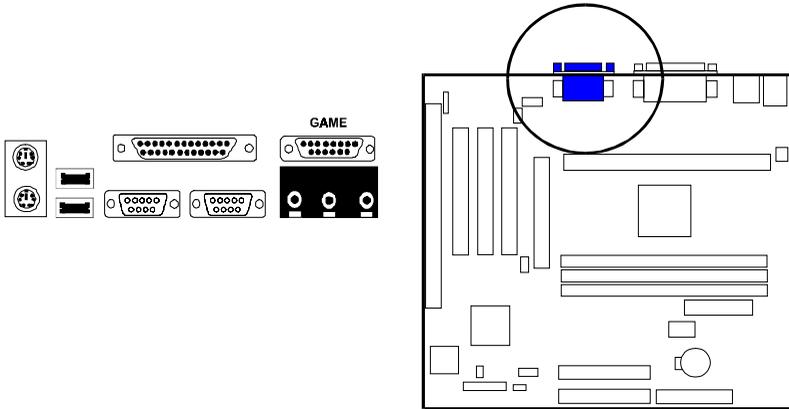
Audio I/O Jacks: LINE_OUT, LINE_IN, MIC_IN

LINE_OUT can be connected to headphones or preferably powered speakers. LINE_IN allows tape players or other audio sources to be recorded by your computer or played through the LINE_OUT. MIC_IN allows microphones to be connected for voice input.
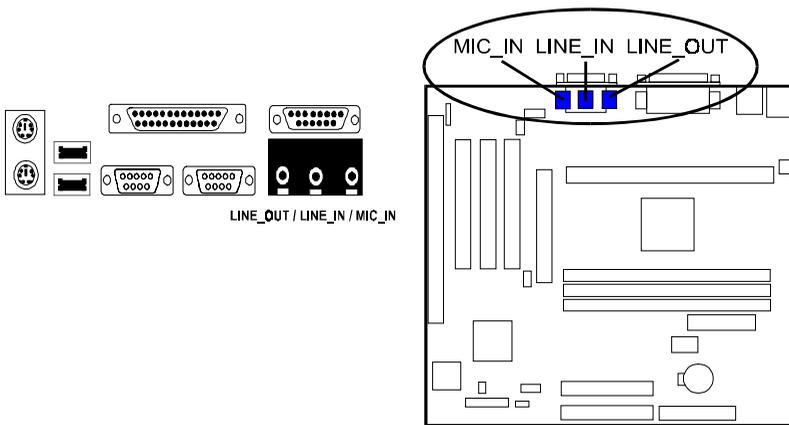
This Page Left Blank for Notes

BIOS Setup

The mainboard comes with the Award BIOS chipthat contains the ROM Setup information of your system. This chip serves as an interface between the processor and the rest of the mainboard's components. This section explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

CMOS Setup Utility

```
                    ROM PCI/ISA BIOS (2A6LJF0A)
                        CMOS SETUP UTILITY
                       AWARD SOFTWARE, INC.

   STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

   BIOS FEATURES SETUP             SUPERVISOR PASSWORD

   CHIPSET FEATURES SETUP          USER PASSWORD

   POWER MANAGEMENT SETUP          IDE HDD AUTO DETECTION

   PNP/PCI CONFIGURATION           SAVE & EXIT SETUP

   LOAD BIOS DEFAULTS              EXIT WITHOUT SAVING

   LOAD SETUP DEFAULTS

   Esc :  Quit                      ↑ ↓ → ←   :  Select Item
   F10 :  Save & Exit Setup         (Shift)F2  :  Change Color
```

A Setup program, built into the system BIOS, is stored in the CMOS RAM. This Setup utility program allows changes to the mainboard configuration settings. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press Enter to run the selected program.

Standard CMOS Setup

```
                   ROM PCI/ISA BIOS (2A6LJF0A)
                      STANDARD CMOS SETUP
                      AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Mon, Sep 11   1999
Time (hh:mm:ss) : 15 : 37 : 55
HARD DISKS        TYPE  SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE
Primary Master  : Auto    0     0     0        0      0       0  Auto
Primary Slave   : Auto    0     0     0        0      0       0  Auto
Secondary Master: Auto    0     0     0        0      0       0  Auto
Secondary Slave : Auto    0     0     0        0      0       0  Auto
Drive A  :  None
Drive B  :  None                       Base Memroy:    640K
Floppy 3 Mode Support : Disabled    Extended Meory: 31744K
                                       Other Memory:    384K
 Video    :  EGA/VGA                  Total Memory: 32768K
 Halt On  :  All Errors
Esc :  Quit                  ↑↓→←  :  Select Item    PU/PD/+/-  :  Modify
F1  :  Save & Exit Setup    (Shift)F2 :  Change Color
```

The Standard CMOS Setup screen is displayed above. Each item may have
one or more option settings. The system BIOS automatically detects memory
size, thus no changes are necessary. Use the arrow keys to highlight the item
and then use the PgUp or PgDn keys to select the value you want in each item.

Hard Disk Configurations

TYPE: Select User to fill the remaining fields. Select Auto to detect the
HDD type automatically (recommended).

SIZE: The hard disk size. The unit is Mega Bytes.

CYLS: The cylinder number of the hard disk.

HEAD: The read/write head number of hard disk.

PRECOMP: The cylinder number at which the disk drive changes the
write current.

LANDZ: The cylinder number that the disk drive heads (read/write) are
seated when the disk drive is parked.

SECTOR: The sector number of each track defined on the hard disk.

MODE: Select Auto to detect the mode type automatically. If your hard
disk supports the LBA mode, select LBA or Large. However, if your hard
disk cylinder is more than 1024 and does not support the LBA function, set
at Large. Select Normal if your hard disk supporting cylinders is below
1024.

Software Turbo Speed

The BIOS supports Software Turbo Speed feature. Instead of pressing the Turbo Speed Button on the front panel, simply press the **Alt, Ctrl, and +** keys at the same time to enable the Turbo Speed feature; and press the **Alt, Ctrl, and -** keys at the same time to disable the feature.

BIOS Features Setup

```
                ROM PCI/ISA BIOS (2A6LJF0A)
                   BIOS FEATURES SETUP
                   AWARD SOFTWARE, INC.

Anti-Virus Protection      : Enabled    Video  BIOS Shadow   : Enabled
CPU Internal Cache         : Enabled    BIOS Guardian        : Enabled
External Cache             : Enabled
Processor Number Feature   : Enabled
Quick Power On Self Test   : Enabled
Boot From LAN First        : Enabled
Boot Sequence              : A, C, SCSI
Swap Floppy Drive          : Disabled
Boot Up Floppy Seek        : Enabled
Boot Up NumLock Status     : On
Gate A20 Option            : Fast
Memory Parity/ECC Check    : Disabled
Typematic Rate Setting     : Disabled
Typematic Rate (Chars/Sec) : 6
Typematic Delay (Msec)     : 250        Esc : Quit        ↑↓→← : Select Item
Security Option            : Setup      F1  : Help        PU/PD/+/- : Modify
PCI/VGA Palette Snoop      : Disabled   F5  : Old Values  (Shift)F2  : Color
OS Select For DRAM > 64MB  : Non-OS2    F6  : Load BIOS Defaults
HDD S.M.A.R.T. capability  : Disabled   F7  : Load Setup Defaults
Report No FDD For WIN 95   : Yes
```

Anti-Virus Protection

This feature starts the virus scan tool to detect viruses in boot sector of the first hard disk drive when booting up.
The options are: Enabled (Default), Disabled.

CPU Internal Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting. The options are: Enabled (Default), Disabled.

External Cache

When enabled, supports an optional cache SRAM. This feature allows you to disable the cache function when the system performance is unstable to run some software. The options are: Enabled (Default), Disabled.

Processor Number Feature

If a Pentium® III processor is installed on this mainboard, the system BIOS will allow other utilities to access the Intel Pentium® III serial number while this feature is set at Enabled. The options are: Enabled (Default), Disabled.

Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test.
The options are: Enabled (Default), Disabled.

Boot From LAN First

This feature makes the system bootable by the remote server via LAN.
The options are: Enabled (Default), Disabled.

Boot Sequence

Allows the system BIOS to first try to boot the operating system from the
selected disk drive. The options are: A, C, SCSI (Default); C, A, SCSI; C,
CDROM, A; CDROM, C, A; D, A, SCSI; E, A, SCSI; F, A, SCSI; SCSI, A, C;
SCSI, C, A; C Only; LS/ZIP, C.

Swap Floppy Drive

Allows you to switch the order in which the operating system accesses
the floppy drives during boot up.
The options are: Enabled, Disabled (Default).

Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by
issuing the time-consuming seek commands. The options are: Enabled
(Default), Disabled.

Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock
Function when the system boots up. The options are: On (Default), Off.

Gate A20 Option

When set at Fast, allows a faster access response under Protected mode.
The options are: Fast (Default), Normal.

Memory Parity Check/ECC Check

This feature enables BIOS to perform automatic memory checking upon
detection of ECC or parity DRAM.
The options are: Enabled, Disabled (Default).

Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released.

The options are: Disabled (Default), Enabled.

Typematic Rate (Chars/Sec)

This feature is available only if the above item, Typematic Rate Setting, is set at Enabled. Sets the rate of a character repeat when the key is held down.

The options are: 6 (Default), 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

This feature is available only if the item, Typematic Rate Setting, is set at Enabled. Sets the delay time before a character is repeated.

The options are: 250 (Default), 500, 750, 1000 millisecond.

Security Option

Allows you to set the security level of the system.

The options are: Setup (Default), System.

PCI/VGA Palette Snoop

Set this feature to Enabled if any ISA adapter card installed in the system requires the VGA palette snoop function.

The options are: Disabled (Default), Enabled.

OS Select For DRAM > 64MB

If your operating system (OS) is OS/2, select the option OS2. Otherwise, stay with the default setting Non-OS2.

The options are: Non-OS2 (Default), OS2.

HDD S.M.A.R.T. Capability

S.M.A.R.T. stands for Self-Monitoring and Analysis Reporting Technology which allows your hard disk drive to report any read/write errors and issues a warning with LDCM installed.

The options are: Disabled (Default); Enabled.

**Chapter 3
BIOS Setup**

Report No FDD For WIN 95

When the field under the Standard CMOS Setup Menu for Drive A and/or Drive B is set at None, users must set this field at Yes for it to function properly. Otherwise, set at No, even if field for Drive A and/or Drive B is set at None, the system will still detect and recognize the floppy drive(s).
The options are: Yes (Default), No.

Video BIOS Shadow

Allows the BIOS to copy the video ROM code of the add-on video card to the system memory for faster access.
The options are: Enabled (Default), Disabled.

BIOS Guardian

A system to prevent computer viruses from attaching to your BIOS. It must be disabled in order to update BIOS.
The options are: Enabled (Default), Disabled.

Chipset Features Setup

```
ROM PCI/ISA BIOS (2A6LJF0A)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Bank 0/1 DRAM Timing     : SDRAM 10ns      Current CPU Temp.          :
Bank 2/3 DRAM Timing     : SDRAM 10ns      Current System Temp.       :
Bank 4/5 DRAM Timing     : SDRAM 10ns      Current CPU1 Speed         :
SDRAM Cycle Length       : Auto            Current ChassisFAN Speed   :
DRAM Clock               : Auto            Vcore :          2.5V :
Memory Hole              : Disabled         3.3V :           5V :
P2C/C2P Concurrency      : Enabled          12V :
Fast R-W Turn Around     : Disabled
System BIOS Cacheable    : Enabled
Video RAM Cacheable      : Disabled
AGP Aperture Size        : 64M
AGP-4X Mode              : Enabled
AGP Fast Write           : Disabled
OnChip USB               : Enabled
OnChip USB 2             : Enabled          Esc : Quit        ↑↓→← : Select Item
USB Keyboard Support     : Disabled         F1  : Help        PU/PD/+/- : Modify
OnChip Sound             : Enabled          F5  : Old Values   (Shift)F2  : Color
Auto Detect DIMM/PCI Clk       : Enabled    F6  : Load BIOS Defaults
Spread Spectrum                : Enabled    F7  : Load Setup Defaults
CPU Host/PCI Clock (CPU/PCI) : Default
```

Bank 0/1 DRAM Timing; Bank 2/3 DRAM Timing; Bank 4/5 DRAM Timing;

This feature allows you to select the DRAM read/write speed.

The options are: SDRAM 10ns (Default), SDRAM 8ns, Normal, Medium, Fast, Turbo.

SDRAM Cycle Length

This item will function only when SDRAM DIMM/s are installed on the mainboard (BIOS auto detection). If the CAS latency of your SDRAM DIMM is 2, set it at 2 to enhance your system performance. If the CAS latency of your SDRAM DIMM is 3, stay with the default setting, 3.

The options are: 3, 2, Auto (Default).

DRAM Clock

The feature allows users to select the DRAM clock.

The options are: Host CLK, Auto (Default), HCLK+33M, HCLK-33M.

Memory Hole

When you install a Legacy ISA card, this feature allows you to select the memory hole's address range of the ISA cycle when the processor accesses the selected address area. Please read your card manual for detailed information. When disabled, the memory hole at the 14MB (or 15MB) address will be treated as a DRAM cycle when the processor accesses the 14~16MB (or 15~16MB) address area.

The options are: 15M - 16M, Disabled (Default).

P2C/C2P Concurrency

This feature allows users to set PCI/AGP Master-to-CPU/ CPU-to-PCI/ AGP Slave concurrent.

The options are: Enabled (Default), Disabled.

Fast R-W Turn Around

It allows users to set DRAM fast read-to-write turn around.

The options are: Enabled, Disabled (Default).

Chapter 3
BIOS Setup

3 - 7

System BIOS Cacheable

When enabled, allows the ROM area F000H-FFFFH to be cacheable when cache controller is activated. The options are: Enabled (Default), Disabled.

Video RAM Cacheable

When enabled, allows the system to use the video RAM from cache RAM, instead of the slower DRAMs or ROMs.
The options are: Enabled, Disabled (Default).

AGP Aperture Size

Allows you to select the main memory frame size for AGP use.
The options are 4, 8, 16, 32, 64 (Default), 128MB.

AGP-4X Mode

This feature allows user to select the AGP mode be to 2x or 4x when an AGP add-in card installed. However, when set at Enabled and with an AGP card that only supports 1x mode, the system will fall back to 1x mode automatically.
The options are: Enabled (Default), Disabled.

AGP Fast Write

When enabled, this feature allows you to set AGP fast write mode.
The options are: Enabled, Disabled (Default).

OnChip USB

When enabled, this feature allows you to use the onboard USB feature.
The options are: Enabled (Default), Disabled.

OnChip USB 2

When enabled, this feature allows you to use the onboard USB 2 feature.
The options are: Enabled (Default), Disabled.

USB Keyboard Support

This feature will appear only if the above item Onchip USB is set at En-abled. Set this feature to Enabled to use a USB keyboard with your system.
The options are: Disabled (Default), Enabled.

OnChip Sound

When set at Enabled, this feature activated the onboard audio feature. The options are: Enabled (Default), Disabled.

Auto Detect DIMM/PCI Clk

Set this field at Enabled to allow auto detection of DIMM and PCI. If none detected, it will stop the clock of each DIMM and PCI.
The options are: Enabled (Default), Disabled.

Spread Spectrum

This feature is used to set the Spread Spectrum to be center spread type or down spread type. The options are: Enabled (Default), Disabled.

CPU Host/PCI Clock (CPU/PCI)

Select *Default* or select a timing combination for the CPU and the PCI bus. When set to *Default*, BIOS uses the actual CPU and PCI bus clock values. The options are: Default (Default), 66.8/33.4 MHz, 75/37.5 MHz, 83.3/41.7 MHz, 90/30 MHz, 100/33.3 MHz, 105/35 MHz, 110/36.7 MHz, 112/37.3 MHz, 115/38.3 MHz, 120/40 MHz, 124/41.3 MHz, 124/31 MHz, 133/33.3MHz, 140/ 35 MHz, 150/37.5 MHz.

Current CPU Temp. / Current System Temp. / Current CPUFAN1 Speed / Current ChassisFAN Speed / Vcore / 3.3V / 12V / 2.5V / 5V

These items allow end users and technicians to monitor data provided by the BIOS on this mainboard. It is not user-configurable.

**Chapter 3
BIOS Setup**

Power Management Setup

```
              ROM PCI/ISA BIOS (2A6LJF0A)
              POWER MANAGEMENT SETUP
                AWARD SOFTWARE, INC.

Power Management    : User Define    Primary INTR      : ON
PM Control by APM   : Yes            IRQ3  (COM 2)     : Primary
Video Off After     : Suspend        IRQ4  (COM 1)     : Primary
Video Off Method    : DPMS Support   IRQ5  (LPT  2)    : Primary
MODEM Use IRQ       : 3              IRQ6  (Floppy Disk) : Primary
Soft-Off by PWRBTN  : Instant-Off    IRQ7  (LPT  1)    : Primary
PWRON After PW-Fail : Former-Sts     IRQ8  (RTC  Alarm) : Disabled
HDD Power Down      : Disable        IRQ9  (IRQ2 Redir) : Secondary
Doze Mode           : Disable        IRQ10 (Reserved)  : Secondary
Suspend Mode        : Disable        IRQ11 (Reserved)  : Secondary
VGA                 : OFF            IRQ12 (PS/2 Mouse) : Primary
LPT & COM           : LPT/COM        IRQ13 (Coprocessor) : Primary
HDD & FDD           : ON             IRQ14 (Hard Disk) : Primary
DMA/master          : OFF            IRQ15 (Reserved)  : Disabled
Modem Ring Resume   : Enabled
RTC Alarm Resume    : Disabled       Esc : Quit        ↑↓→← : Select Item
                                     F1  : Help        PU/PD/+/- : Modify
                                     F5  : Old Values   (Shift)F2  : Color
Wake Up On LAN      : Enabled        F6  : Load BIOS Defaults
PowerOn by PCI Card : Disabled       F7  : Load Setup Defaults
```

Power Management

This item allows you to adjust the power management features. Select Disable for disabling global power management features. Select User Define for configuring your own power management features. Min Saving initiates all predefined timers in their minimum values. Max Saving, on the other hand, initiates maximum values. The options are: User Define (Default), Min Saving, Max Saving.

PM Control by APM

The option No allows the APM (Advanced Power Management) specification to be ignored. Selecting Yes will allow the BIOS to wait for APM's prompt before it enters Doze mode, Standby mode, or Suspend mode. If the APM is installed, it will prompt the BIOS to set the system into Power Saving mode when all tasks are done. The options are: No, Yes (Default).

Video Off After

It allows you to activate the video off feature for the display monitor power management. The options are Suspend (Default), Doze, NA.

Video Off Method

The option *V/H SYNC+Blank* allows the BIOS to blank off screen display by turning off the V-Sync and H-Sync signals sent from add-on VGA card.

DPMS Support allows the BIOS to blank off screen display by your add-on VGA card which supports DPMS (Display Power Management Signaling function). *Blank Screen* allows the BIOS to blank off screen display by turning off the red-green-blue signals.

The options are: V/H SYNC+Blank, DPMS Support (Default), Blank Screen.

MODEM Use IRQ

The feature allows users to select the IRQ# of the system to match Modem IRQ#. The settings are: NA, 3 (Default), 4, 5, 7, 9, 10, 11.

Soft-Off by PWR-BTTN

The selection Delay 4 Sec. sets the system shut down to 4 seconds after the power button is pressed. The selection Instant-Off allows the system to be shut down immediately, once the power button is pressed.

The settings are: Delay 4 Sec, Instant-Off (Default).

PWRON After PWR-Fail

When the system is shut down owing to the power failure, the system will not power on by itself. This feature allows you to set the system back to the original power status of the system when the system power is resumed. The options are Former-Sts (Default), Off, On.

HDD Power Down

The option lets the BIOS turn the HDD motor off when system is in Suspend mode. Selecting 1 Min..15 Min allows you to define the HDD idle time before the HDD enters the Power Saving Mode.

The options 1 Min..15 Min will not work concurrently. When HDD is in the Power Saving Mode, any access to the HDD will wake the HDD up.

The options are: Disable (Default), 1 Min..15 Min.

Doze Mode

When disabled, the system will not enter Doze mode. The specified time option defines the idle time the system takes before it enters Doze mode. The options are: Disable (Default), 10, 20, 30, 40 Sec, 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hour.

Suspend Mode

When disabled, the system will not enter Suspend mode. The specified time option defines the idle time the system takes before it enters Suspend mode. The options are: Disable (Default), 10, 20, 30, 40 Sec, 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hour.

**Chapter 3
BIOS Setup**

VGA

ON enables the power management timers when a no activity event is detected in the VGA. *OFF* disables the PM timer even if a no activity event is detected. The options are: OFF (Default), ON.

LPT & COM

LPT/COM enables the power management timers when a no activity event is detected in the LPT and COM ports. *LPT (COM)* enables the power management timers when a no activity event is detected in the LPT (COM) ports. *NONE* to disable the PM timer even if a no activity event is detected. The options are: LPT/COM (Default), LPT, COM, NONE.

HDD & FDD

ON will enable the power management timers when a no activity event is detected in the hard drive and floppy drive. *OFF* disables the PM timer even if a no activity event is detected. The options are: OFF, ON (Default).

DMA/master

ON will enable the power management timers when a no activity event is detected in DMA or Bus Master activity (of the LAN card or/and SCSI card). *OFF* disables the PM timer even if a no activity event is detected. The options are: OFF, ON (Default).

Modem Ring Resume

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state. The options are: Enabled (Default), Disabled.

RTC Alarm Resume

Enabled allows you to set the time the system will be turned on from the system power-off status. The options are: Enabled, Disabled (Default).

Date (of Month)

This feature allows you to set the day the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: 0, 1..31.

Chapter 3
BIOS Setup

Timer (hh:mm:ss)

If an ATX power supply is installed and when RTC Alarm Resume is Enabled, this feature allows you to set the time the alarm starts when the RTC Alarm Resume from Soft Off is set to be Enabled.

The options are: 7: 0: 0 (Default). hh (*hour*) - 0, 1, 2,.., 23; mm (*minute*) - 0, 1, 2,..,59; ss (*second*) - 0, 1, 2,..,59.

Wake Up On LAN

When set at Enabled and when system is connected over LAN, an input signal comes from the other client/server on the LAN and awakes the system from a soft off state.

The options are Disabled (Default) or Enabled.

PowerOn by PCI Card

When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state.

The options are Disabled (Default) or Enabled.

Primary INTR

When set at ON the Primary Interrupt (the Primary option in the feature of IRQ# Activity) will make the Power Management feature (PM) wake-up system. The options are: OFF, ON (Default).

IRQ# Activity

After the time period which you set at in Suspend Mode Feature, the system advances from Doze Mode to Suspend Mode in which the CPU clock stops and the screen display is off. At this moment, if the IRQ activity which is defined as Primary occurs, the system goes back to Full-on Mode directly.

If the IRQ activity which is defined as Secondary takes place, the system enters another low power state, Dream Mode, in which the system will act as Full-on Mode except that the screen display remains off until the corresponding IRQ handler finishes, then back to Suspend Mode.

The options of IRQ 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 are: Primary, Secondary, Disabled.

The default values of IRQ 8, 15 are: Disabled.

The default value of IRQ 3, 4, 5, 6, 7, 12, 13, 14 are: Primary.

The default value of IRQ 9, 10, 11 are: Secondary.

Chapter 3
BIOS Setup

PNP/PCI Configuration

```
            ROM PCI/ISA BIOS (2A6LJF0A)
              PNP/PCI CONFIGURATION
               AWARD SOFTWARE, INC.

PNP OS Installed       : No          CPU to PCI Write Buffer  : Enabled
Resource Controlled By : Auto        PCI Dynamic Bursting     : Enabled
Reset Configuration Data : Disabled  PCI Master 0 WS Write    : Enabled
                                     PCI Delay Transaction    : Disabled
                                     PCI#2 Access #1 Retry    : Enabled
                                     AGP Master 1 WS Write    : Disabled
                                     AGP Master 1 WS Read     : Disabled

                                     Assign IRQ For VGA  : Enabled
                                     Slot 1 Use IRQ No.   : Auto
                                     Slot 2 Use IRQ No.   : Auto
                                     Slot 3 Use IRQ No.   : Auto


                                      Esc: Quit        ↑↓→← : Select Item
                                      F1 : Help         PU/PD/+/- : Modify
                                      F5 : Old Values   (Shift)F2  : Color
                                      F6 : Load BIOS Defaults
                                      F7 : Load Setup Defaults
```

PNP OS Installed

If your operating system is a Plug-and-Play, such as Windows NT, Windows 95, select Yes. The options are: No (Default), Yes.

Resources Controlled By

If set at Auto, the BIOS arranges all system resources. If there a conflict exists, select Manual. The options are: Auto (Default), Manual.
The manual options of **IRQ- / DMA- assigned to** are: Legacy ISA, PCI/ISA PnP (Default).

Reset Configuration Data

When enabled, allows the system to clear the last BIOS configuration data and reset with the default data.
The options are: Enabled, Disabled (Default).

CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of the system controller; in order that the processor can be released from the waiting state. The options are: Enabled (Default), Disabled.

PCI Dynamic Bursting

When enabled, the PCI controller allows Bursting PCI transfer if the con-
secutive PCI cycles come with the address falling in same 1KB space. This
improves the PCI bus throughput.
The options are: Enabled (Default), Disabled.

PCI Master 0 WS Write

When enabled, allows a zero-wait-state-cycle delay when the PCI master
drive writes data to DRAM. The options are: Enabled (Default), Disabled.

PCI Delay Transaction

Enable this feature to abort the current CPI master cycle and to accept the
new PCI master request. It reaccepts the original PCI master and returns
the PCI data phase to the original PCI master.
The options are: Disabled (Default), Enabled.

PCI#2 Access #1 Retry

When enabled, the AGP (PCI#2) access to PCI (PCI#1) will be retried until
the maximum count. The options are: Disabled; Enabled (Default).

AGP Master 1 WS Write

When enabled, the AGP bus master write access to DRAMs will add one
wait-state cycle. The options are: Enabled; Disabled (Default).

AGP Master 1 WS Read

When enabled, the AGP bus master read access to the DRAMs will add
one wait-state cycle. The options are: Disabled (Default); Enabled.

Assign IRQ For VGA

If your PCI VGA card does not need an IRQ, select Disabled; allowing an
IRQ can be released for the system use.
The options are: Enabled (Default), Disabled.

Slot 1/2/3 Use IRQ No.

Some PCI devices need to use an IRQ on the PCI bus. Selecting Auto
allows the PCI controller to automatically allocate an IRQ.
The options are: Auto (Default); 3, 4, 5; 7; 9, 10, 11, 12; 14; 15.

Integrated Peripherals

```
                    ROM PCI/ISA BIOS (2A6LJF0A)
                      INTEGRATED PERIPHERALS
                        AWARD SOFTWARE, INC.

OnChip IDE Channel0      : Enabled      Onboard Parallel Port   : 378/IRQ7
OnChip IDE Channel1      : Enabled      Parallel Port Mode      : Normal
IDE Prefetch Mode        : Enabled
IDE HDD Block Mode       : Enabled      Onboard Legacy Audio    : Enabled
IDE Treshhold            : Enabled      Sound Blaster           : Disabled
Primary Master    PIO  : Auto           SB I/O Base Address     : 220H
Primary Slave     PIO  : Auto           SB IRQ Select           : IRQ 5
Secondary Master  PIO  : Auto           SB DMA Select           : DMA 1
Secondary Slave   PIO  : Auto           MPU-401                 : Disabled
Primary Master    UDMA : Auto           MPU-401 I/O Address     : 330-333H
Primary Slave     UDMA : Auto           Game Port (200-207H)    : Enabled
Secondary Master UDMA : Auto
Secondary Slave  UDMA : Auto
Init Display First       : PCI Slot

Onboard FDD Controller   : Enabled      Esc : Quit        ↑↓→← : Select Item
Onboard Serial Port 1    : 3F8/IRQ4     F1  : Help        PU/PD/+/- : Modify
Onboard Serial Port 2    : 2F8/IRQ3     F5  : Old Values  (Shift)F2  : Color
UART 2 Mode              : Standard     F6  : Load BIOS Defaults
                                        F7  : Load Setup Defaults
```

OnChip IDE Channel0

When enabled, allows you to use the onboard primary PCI IDE. If a hard disk controller card is used, set at Disabled.
The options are: Enabled (Default), Disabled.

OnChip IDE Channel1

When enabled, allows you to use the onboard secondary PCI IDE. If a hard disk controller card is used, set at Disabled.
The options are: Enabled (Default), Disabled.

IDE Prefetch Mode

When set at Enabled, it allows data to be posted to and prefetched from the primary IDE data ports. Data prefetching is initiated when a data port read occurs. The read prefetch eliments latency to the IDE data ports and allows them to be performed back to back for the highest possible PIO data transfer rates. The first data port read of a sector is called the demand read. Subsequent data port reads from the sector are called prefetch reads. The demand read and all prefetch reads must be of the same size (16 or 32 bits).
The options are: Enabled (Default), Disabled.

IDE HDD Block Mode

When enabled, the system executes read/write requests to hard disk in block mode. The options are: Enabled (Default), Disabled.

IDE Treshhold

When disabled, the IDE data transfer starts immediately if FIFO is not empty.
The options are: Enabled (Default), Disabled.

Primary Master PIO

Allows an automatic or manual configuration of the PCI primary IDE hard disk (master) mode. The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary Slave PIO

Allows an automatic or manual configuration of the PCI primary IDE hard disk (slave) mode. The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Secondary Master PIO

Allows an automatic or manual configuration of the PCI secondary IDE hard disk (master) mode. The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Secondary Slave PIO

Allows an automatic or manual configuration of the PCI secondary IDE hard disk (slave) mode. The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary Master UDMA

Allows you to select the first PCI IDE channel of the first master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disable.

IDE Primary Slave UDMA

Allows you to select the first PCI IDE channel of the first slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disable.

IDE Secondary Master UDMA

Allows you to select the second PCI IDE channel of the secondary master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disable.

IDE Secondary Slave UDMA

Allows you to select the second PCI IDE channel of the secondary slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disable.

Init Display First

When you install an AGP VGA card and a PCI VGA card on the board, this feature allows you to select the first initiation of the monitor display from which card. The options are: PCI Slot (Default), AGP.

Onboard FDC Controller

When enabled, the floppy diskette drive (FDD) controller is activated. The options are: Enabled (Default), Disabled.

Onboard Serial Port 1

If the serial port 1 uses the onboard I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: Auto, 3F8/IRQ4 (Default), 3E8/IRQ4, 2F8/IRQ3, 2E8/IRQ3, Disabled.

Onboard Serial Port 2

If the serial port 2 uses the onboard I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: Auto, 2F8/IRQ3 (Default), 3E8/IRQ4, 2E8/IRQ3, 3F8/IRQ4, Disabled.

UART 2 Mode

Select an operating mode for the second serial port. Set at Standard, if you use COM2 as the serial port, instead as an IR port.
The options are: Standard (Default), ASK-IR, HPSIR.

**Chapter 3
BIOS Setup**

Onboard Parallel Port

Allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.
The options are: 378/IRQ7 (Default), 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

Allows you to connect with an advanced printer.
The options are: Normal (Default), EPP, ECP, ECP/ ECP.

Onboard Legacy Audio

Select an operating mode for the second serial port. Set at Standard, if you use COM2 as the serial port as the serial port, instead as an IR port.
The options are: Enabled (Default), Disabled.

Sound Blaster

This feature allows you to select the Sound Blaster, if the onboard Legacy audio chosen.
The options are: Enabled, Disabled (Default).

SB I/O Base Address

This feature allows you to select the SB I/O base address, if the onboard Legacy audio chosen.
The options are: 220H (Default), 240H, 260H, 280H.

SB IRQ Select

This feature allows you to select the SB IRQ, if the onboard Legacy audio chosen.
The options are: IRQ 5 (Default), IRQ 7, IRQ 9, IRQ 10.

SB DMA Select

This feature allows you to select the SB DMA channel, if the onboard Legacy audio chosen.
The options are: DMA 1 (Default), DMA 2, DMA 3, DMA0.

MPU-401

This feature allows you to select MPU-401, if the onboard Legacy audio chosen. The options are: Disabled (Default), Enabled.

MPU-401 I/O Address

This feature allows you to select the MPU-401 I/O address, if the onboard Legacy audio chosen.

The options are: 310-313H, 320-323H, 330-333H (Default), 300-303H.

FM Port (388-38BH)

This feature allows you to select the FM port (388-38BH), if the onboard Legacy audio chosen.

The options are: Enabled, Disabled (Default).

Game Port (200-207H)

This feature allows you to select the game port (200-207H), if the onboard Legacy audio chosen.

The options are: Enabled (Default), Disabled.

Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter twice when you are prompted to enter a password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted to type your password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time you reboot the system or enter the CMOS Setup utility.

IDE HDD Auto Detection

The IDE Hard Disk Drive Auto Detection feature automatically configures your new hard disk. Use it for a quick configuration of new hard drives. This feature allows you to set the parameters of up to four IDE HDDs. The option with **(Y)** is recommended by the system BIOS. You may also key in your own parameters instead of setting by the system BIOS. After all settings, press Esc key to return to the main menu. For confirmation, enter the Standard CMOS Setup feature.

**Chapter 3
BIOS Setup**

Save and Exit Setup

After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility: **SAVE to CMOS and EXIT (Y/N)?**

Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications: **Quit Without Saving (Y/N)?**

FAQs

General FAQs

How do I know which version BIOS I have?

Check it on the boot screen, click [Pause/Break] button to give you time to write it down.

How to install a PS/2 mouse?

Enable PS/2 in Advanced Setup (AMI BIOS).There is a label on the board which points to pin number one when connecting the PS/2 mouse adapter on the board. The Pin number two is not connected because the female connector (on PS/2 Mouse adapter) doesn't have wire on number two slot. The PS/2 mouse port is a 5 pins pin header which is located beside keyboard socket.

Can I use ECC memory?

Yes, provided your chipset supports it. Check your manual (Overview section) or consult the chipset manufacturer's Web site (Intel or VIA).

How do I know which FLASH chip I have?

Partially remove the sticker from the chip to check the name of the manufacturer. Usually the jumper setting is set correctly in the factory.

How can I get the USB drivers?

Download Microsoft USB Supplement and a set of generic USB Drivers from Drivers and Utilities Page. You must have Windows 950B (Service Release II, "Windows97") to install these.These drivers resolve the yellow exclamation mark problem (Unknown Devices, USB) in Device Manager. It is recommended to install Windows 98/98 SE; as it provides built-in USB drivers.

What is the DMI utility used for?

The DMI Configuration Utility can be used to maintain the Management Information Format Database (MIFD). DMI is also able to auto-detect and record information pertinent to a computers system such as the CPU type, CPU speed and internal/external frequencies and memory size. The onboard BIOS detects as much system information as possible and stores it in a 4KB Block in the motherboards Flash EPROM and allows the DMI to retrieve data from this database. The DMI utility also allows the system integrator or end user to add additional information into the MIFD such as serial numbers, housing configuration and vendor information. This information cannot be detected by the motherboards BIOS and has to manually entered through the DMI Configuration utility and updated into the MIFD.

Where can I get the drivers for PCI set motherboards?

To download the drivers you need, visit the chipset vendor's website Drivers and Utilities Page. There you will see links to FAQs and other Web sites that explain in detail how to install the drivers.

How do I use the DMI Utility?

Take care in using this utility as your system can become totally unusable after altering and saving some configurations on DMI. DMI Utility should not be run from Windows or DOS version higher than v6.22.

If you accidentally alter some settings using DMI Utility under Windows95 (or MS-DOS that comes with it), flash the system BIOS immediately, do not reboot. (We recommend using DOS 6.22 as Win 95 (when applying the DMI Utility) will sometimes show a insufficient error message, when loading the Flash Utility. In that case, the other option is to use the Boot Block feature on the BIOS. Use an ISA VGA card for the system to allow them to boot at least on drive "A" (using DOS 6.22 of course) so you will be able to flash the BIOS at least. If you use DMI from Windows95 DOS prompt or Restart in MS-DOS mode, you will not be able to restart the PC.

Why not update BIOS?

In 90% of cases, a BIOS update is released to address a problem with a particular piece of hardware or software.Therefore, the new BIOS gives the system some new (different) parameters to work with. Newer BIOS'es contain all fixes from previous versions. If the fix list of a new BIOS does NOT address any of problems that you may have, it is unreasonable to update BIOS only for sake of it, because you may be using a combination of hardware/software that is incompatible and yet-untested with the BIOS version you're upgrading to.

It is recommended to refrain from updating BIOS without a good reason. If you don't see your problem listed in the fix list, do not update BIOS. It is better go to a shareware Web site (winfiles.com, shareware.com, tucows.com) and update your software.

And finally, some 10% of BIOS updates contain new CPU ID strings and code enhancements (ACPI, etc.). For those an update is recommended only when it is necessary (i.e. the processor ID does not display properly, the system must have ACPI, etc.).

A typical situation occurs when a user wants to update BIOS because the new version supports a CPU he/she "plans" to buy sometime in the future. With some bad luck, the user ends up with a wrong BIOS (wrong PCB, or chipset, or I/O or all of them) and a destroyed BIOS.

**Chapter 4
FAQs**

BIOS FAQs

How do I flash a new BIOS?

The mainboard package provides a BIOS flash software tool in the software utility CD-ROM. This software feature is provided for upgrading BIOS use. Play the CD-ROM, click on *Browse CD*, select *Flash*, then choose the BIOS vendor that provided the BIOS this board came with. Please print the relating README file and read it first. For more information, please visit FIC Online at www.fic.com.tw.

Downloading BIOS File

Format a bootable system diskette and then, visit the FIC website at **www.fic.com.tw**. Click *BIOS/Drivers Update* item under **BIOS** group, then select the BIOS file you need. Download it to your bootable diskette.

Upgrading BIOS File

Place the bootable diskette containing the BIOS file in the diskette drive (Assume the diskette drive is A.), and reboot the system from the A drive. At the A: > prompt, execute the BIOS upgrading procedure by entering the Flash BIOS utility and the BIOS file with its extension.

Command: {flash tool file} {space} {downloaded BIOS file} <Enter>
The other parameters are listed in the related README file, please read it if necessary.

After press the *Enter* key, type Y to the message **Press "Y" to Continue, "N" to Reboot**. Press *Enter* key. When the message **Press Any Key to Reboot**, appears, the procedure is completed. Press any key to reboot.

What is "Hardware-based intelligent virus protection"?

This is a new BIOS feature based on anti-virus (AV) software that protects the system from boot-time viruses. It is intellgent in the sense that it uses rules modeled after viruses behavior. For example, it can tell the difference between normal writing to HDD boot sector and virus-attempted writing. It unloads after boot-up so it does not provide total protection and is not intended to serve as replacement for regular anti-virus software.

This utility only includes a Scan Function and not a Virus Delete Function. There are no virus definition files to update.

When I try to flash BIOS I get an error message saying there is a wrong part number. Why?

Flash EPROM ("BIOS") chips used on FIC motherboards vary (Intel, AMD, Fujitsu, etc.). As far as this problem is concerned, there are two possible reasons:

a) You may have used a wrong BIOS or flash utility. Verify that both the BIOS file and the flash utility are the right versions.

b) The flash utility you used did not recognize the type of flash EPROM installed on your motherboard. Verify that you have the right files and if you're sure in that, ignore the warning.

I updated my BIOS and am not satisfied with the result (slower performance, new bugs, etc.). What now?

Restore the old BIOS or wait until a newer BIOS is available. You should use the flash utility supplied with the old BIOS and NOT the flash utility you got with the new BIOS. If you do not know what flash utility it was, consult the Web support pages or contact technical support.

**Chapter 4
FAQs**

Windows 98/98 SE FAQs

What is the correct installation procedure for VIA-based mainboards?

There are four steps:

1) Go to BIOS Setup and enable USB
2) Install Win98/98 SE on your system
3) Install the patch files and other drivers that are contained in the CD-Pro
4) Install your add-on card drivers

NOTE: If your video performance became unstable after the above installation was completed (especially if a VGA card driver was installed in Step 4), please execute Step 3 again. It should solve the problem. This is possible as most probably, the driver version of the add-on card is earlier than that of the patch files and drivers contained in the CD-Pro.

Windows 95 FAQs

What is the proper install order of graphics-related VIA drivers?

1)Install Windows, 2) If your motherboard has an AGP port, load Vxd driver v. 2.9. 4) Load display card driver.

Why does my VIA chipset-based system crash when the system attempts to access the UDMA HDD?

This problem occurs under Windows 95 OSR2 and OSR 2.1. Microsoft has made two updated versions of drivers that solve the problem. Please download them at

http://support.microsoft.com/support/kb/articles/q171/3/53.asp

How can I know if a software is compatible with FIC mainboards?

Each FIC motherboard is tested with a variety of operating systems and applications. Compatibility reports are published every time new or updated models of a motherboard are released.Compatibility reports can be downloaded from individual motherboard support pages or from the FIC FTP Server (opens in a new window).

Windows95 shows an exclamation mark next to USB device on my motherboard. Is there any driver that canhelp me?

If an exclamation mark appears on the USB Serial Bus, PC Bridge, the Windows 95 does not support your USB device. You will need to install the USB drivers to fix it.

This Page Left Blank for Notes