VB-601/VB-601-V
VB-601-Z

MAINBOARD
MANUAL

Handling Precautions

Warning :
1. Static electricity may cause damage to the integrated circuits on the motherboard.
Before handling any motherboard outside of its protective packaging,
ensure that there is no static electric charge in your body**.**
2. There is a danger of explosion if the battery is incorrectly replaced.
Replace only with the same or an equivalent type recommended by the manufacturer.
3. Discard used batteries according to the manufacturer 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.
■ Avoid contacting the components on add-on cards, boards and modules with the   old finger" connectors plugged into the expansion slot. It is best to handle system components by their mounting bracket.
The above methods prevent static build-up and cause it to be discharged properly.

Trademark

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

Copyright

This manual may not, in whole or in part, be photocopied, reproduced, transcribed, translated, or transmitted in whatsoever

Table of Contents

Chapter 3   Software Utilities

Chapter 4   BIOS Setup

This Page Left Blank for Note

Overview

Based on the advanced 440 BX/Apollo Pro+/440 ZX chip, the board combines blistering Pentium II processor performance with support for the new Accelerated Graphics Port (AGP) interface that provides a dedicated path for memory to deliver faster system performance and arcade-quality 3D graphics. Also, it accepts two host bus frequencies, 66MHz and 100MHz, to run a range of Intel Pentium II and Celeron processors. Compliant with the Microsoft PC'97 standard at both the hardware and BIOS levels, the mainboard comes with support for ISMP which continuously checks the thermal and voltage status of your system changes where necessary and reports any discrepancies to a network administrator. The board reduces the total cost of ownership with support for DMI (Desktop Management Interface) and manufacturing optional Intel LANDesk Client Manager (LDCM) software which allows for optimized system manageability across a network. For the most up-to-date information about your mainboard and the latest FAQs and BIOS updates, visit FIC Online at www.fic.com.tw.

Package Checklist

Please check that your package contains all the items listed below. If you discover any item is damaged or missing, please contact your vendor.

■ This mainboard

■ This user manual

■ One IDE device cable

■ One floppy disk drive cable

■ Retention mechanism assembly and Retention mechanism Attachment Mount (They may had been installed by manufacturer already)

■ Software Utilities

The Mainboard

Integrated I/O Connectors   Slot1 for CPU   AGP Slot   North Bridge   4 DIMM Sockets

Hardware Monitor   Flash ROM   SB_LINK   5 PCI Slots   2 ISA Slots   South Bridge
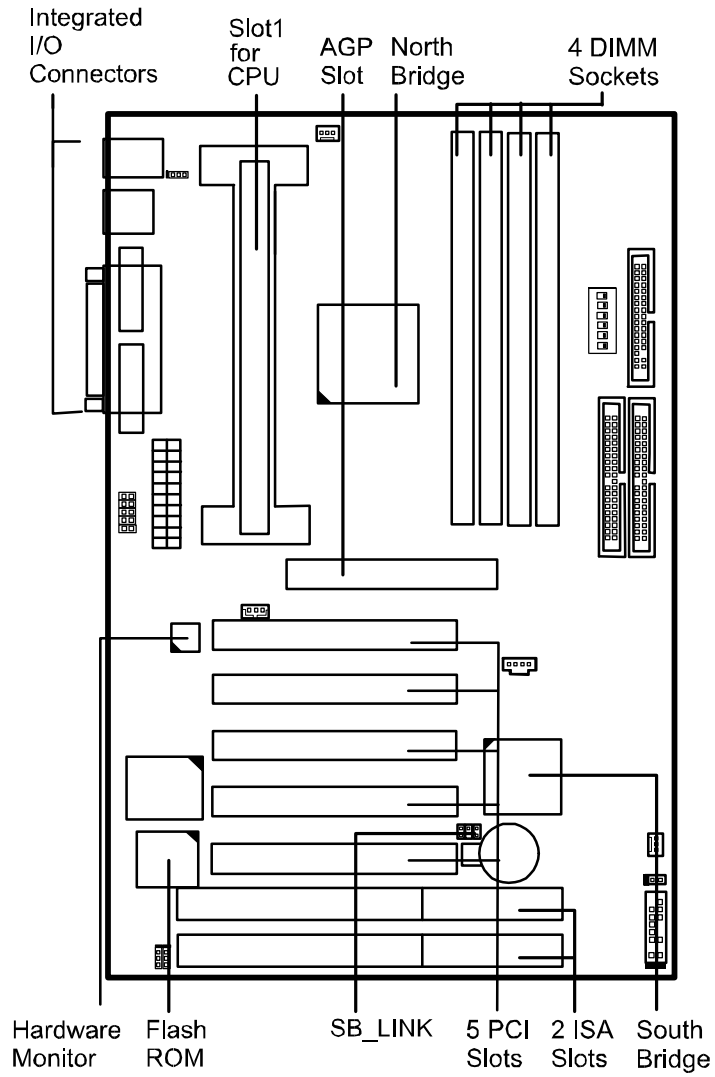
Main Features

■ Easy Installation

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

■ Flexible Processor Support

The mainboard utilizes the advanced features of the core chipset to optimize the unrivaled performance of the Intel Pentium II processor, providing users with a much richer video, audio, digital imaging and communications experience from multimedia software.

Onboard 242-pin Slot1 supports leading-edge processors: Intel Pentium II and Celeron 233/266/300/333/350/400/450/500MHz.

■ Versatile Main Memory Support

Accepts up to 1GB DRAM in four banks by using of 8, 16, 32, 64, 128, 256MB with support for SDRAM DIMMs.

■ Onboard Accelerated Graphics Port (AGP)

One 32-bit AGP slot supports 1x/2x AGP VGA cards for superior 3D video performance with transfer speeds up to 264MB/second under 1x AGP transfer mode and up to 528MB/second under 2x AGP transfer mode.

■ Super Multi I/O

Integrated multi-I/O chip provides keyboard (including power-on passowrd and specific key)/mouse wake-on capability to provide more security and convenience.

■ Wake-On-LAN Support

Onboard WOL connector allows remote management in a simpler and convenient control to LAN-based networks.

■ Advanced Hardware Monitoring
This board equipped W83782D for the detection of the CPU voltage to achieve a more stable system performance. It also supports: two-fan speed, power supply voltage, system temperatures monitoring; and the CPU temperature reporting to lower the system overheating problem.
W83782D provides both ISA and I^{2}C serial bus interface and selectable address setting for application of up to eight devices.

■ LDCM Software Support (manufacturing option)
Intel LANDesk Client Manager is a Desktop Management Interface (DMI)-compliant application for local and network management of desktop client systems. The application reduces the number of help desk calls by supplying the user with self diagnostics such as a PC health meter and local alert for potential problems.

■ SB-LINK for the Audio Card with PCI Bus
The 2x3 SB-LINK header accepts the Creative CT4600 series PCI audio cards with PCI solution to migrate the legacy Sound Blaster compatible audio to the PCI bus.

■ Optional CPU Thermal Monitoring Alert (Available on the Deschutes CPU)
A special heat sensor monitors the CPU temperature to make sure that the system is operating at a safe heat level. If the temperature is too high, the sensor automatically generates an SMI (System Management Interrupt) to slow down the CPU clock frequency. CPU utilization is restored to normal levels when the temperature returns to a safe level.

■ Optional System Over-Voltage Report
System voltage levels are monitored. It warns you that the CPU is overheating, if LDCM is installed. The monitored range for system voltage is -12V, - 5V, +12V, +5V, +3.3V, CPU core voltage ± 10%. This board does not provide onboard 3.3V support; therefore, your ATX power supply must provide 3.3V voltage.

■ Restore on AC/Power Loss

4

The mainboard offers a features that when the system is shut down owing to the power failure, the system will not be back to power on by itself. This feature allows you to set the system back to which power status of the system when the system power is resumed.

ACPI Ready

This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0 Hardware and BIOS requirement. If you install ACPI aware operating system, such as Windows 98, you fully utilized the power saving under ACPI. It is compatible with all other none ACPI operating systems.

If you want to setup ACPI feature under Windows 98, please follow the description below:
Run Windows 98 setup by using **setup/p   j** on the command line for installing Windows 98 with the ACPI control feature.
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 detail information, visit the web site of Microsoft. Its address is: **www.microsoft.com/hwtest/**.

The following lists a few examples about the advantages of ACPI-
■ Soft-Off Support
   The mainboard   Soft-Off feature allows you to turn off your computer using the operating system. This feature requires a power supply with a soft-off power controller.

■ RTC Alarm
   The RTC alarm feature allows you to preset the computer to wake-up at a certain time allowing you to implement a number of useful functions, such as automatically sending out a fax late at night.

■ Remote Ring-On

The Remote Ring-On function allows your computer to be turned on remotely via a modem while it is in sleep mode. This feature is particularly usefully when you are expecting a fax late night and leave only your modem on to minimize power consumption. As soon as possible the phone rings, the modem automatically turn on the system, which answers the phone and downloads the fax. Then the computer shuts off again, thereby minimizing its consumption of power. The Remote Ring-On function requires a power supply with a soft-off power controller.

Installation Procedures

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

To set up your computer, you should follow these installation steps:

■ Step 1 - Set system jumpers/switches

■ Step 2 - Install memory modules

■ Step 3 - Install the CPU cartridge

■ Step 4 - Install expansion cards

■ Step 5 - Connect devices

■ Step 6 - Set up BIOS feature

■ Step 7 - Set up software utilities

! **CAUTION:** If you use an electric drill to install this mainboard on your chassis, please wear a static wrist strap. The recommended electric drill torque is from 5.0 to 8.0 kg/cm to avoid damaging the chips' pins.

Quick Reference (Jumpers)
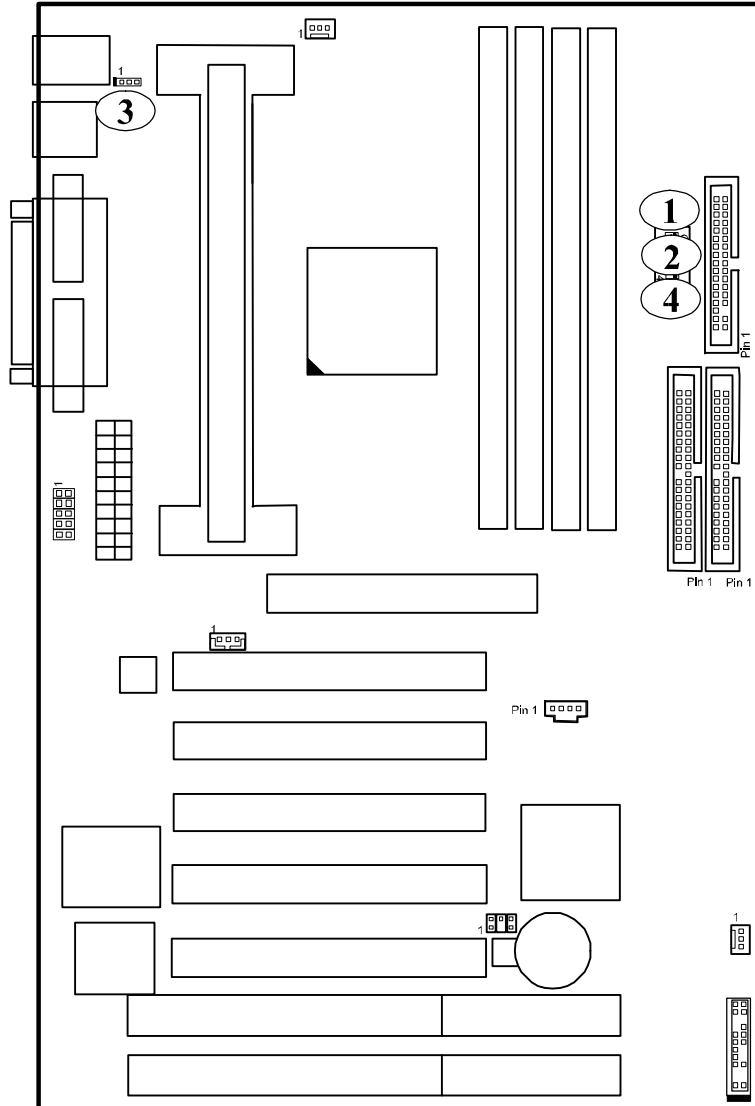
Jumpers (*: Default Setting)

!

CAUTION: Turn off the system power and read Handling Precautions of this manual before installing and removing any part of the system.

No.	Item	Function / Page for Detail information
1	SW1-5	Clear CMOS Data / 12
	On:	Enabled (clear CMOS)
	Off:	Disabled*****
2	SW1-6	Clear Password / 12
	On:	Enabled (clear keyboard power & system password)
	Off:	Disabled*
3	KB_PWN	Keyboard & Mouse Power-On Feature / 13
	1-2:	Enabled
	2-3:	Disabled*
4	SW1-1/2/3/4	CPU to Bus Frequency Ratio Select / 21
		{Table below describes the settings}

CPU to Bus Frequency Ratio Select

Ratio	Bus Freq. = 100MHz	Bus Freq. = 66MHz	SW1-1	SW1-2	SW1-3	SW1-4
3.5 x	350MHz	233MHz	On	Off	On	Off
4 x	400MHz	266MHz	On	On	Off	On
4.5 x	450MHz	300MHz	On	On	Off	Off
5 x	500MHz	333MHz	On	Off	Off	On

Quick Reference (Connectors)
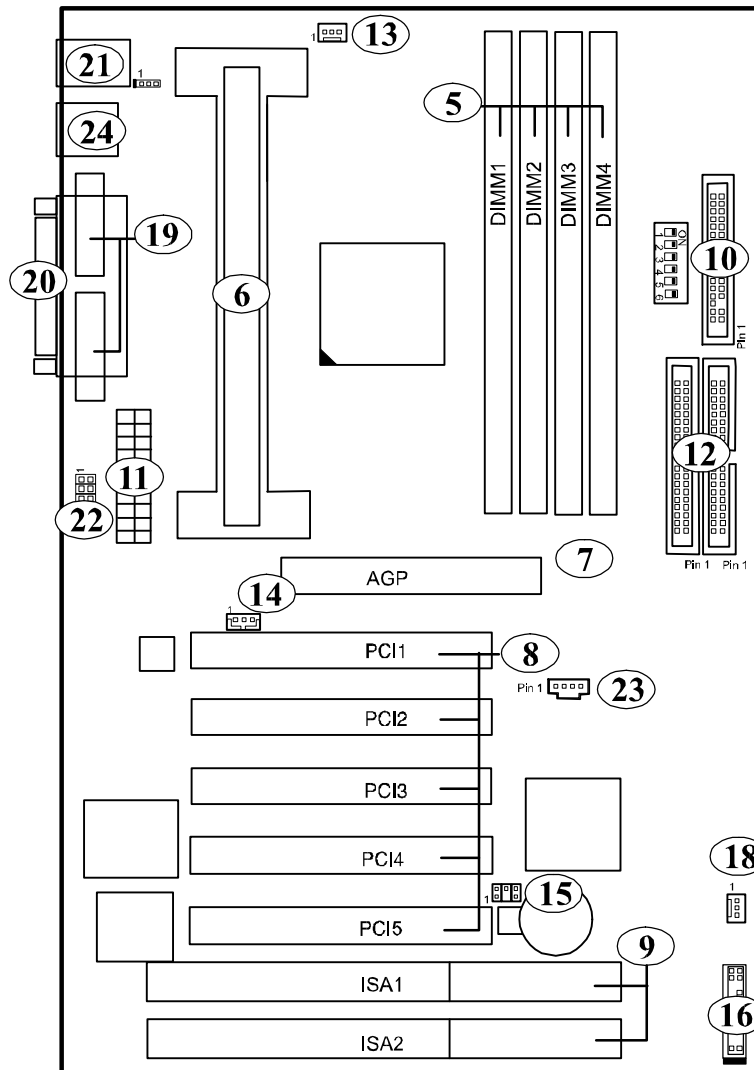
Connectors

No.	Item	Function	Page
5	DIMM1/2/3/4	DIMM Memory Module Support	15
6	SLOT1	CPU Slot	18
7	AGP	Accelerated Graphic Port Slot	22
8	PCI1/2/3	PCI Bus Expansion Slot (32-bit)	22
9	ISA1	ISA Bus Expansion Slot (16-bit)	22
10	FLOPPY	Floppy Diskette Drive Connector	23
11	POWER	ATX Power Connector	23
12	PRIMARY, SECONDARY	IDE Device Connector	24
13	FAN1	CPU Fan Connector	24
14	WOL	Wake-On-LAN Connector	25
15	SB_LINK	PCI Audio Card Connector	25
16	Front Panel Block Connector	Connect to LEDs/Buttons on Front Panel	26
17	FAN2	System Case Fan Connector	27
18	COM1/2	Serial Port	27
19	LPT	Printer Connector	28
20	KB & MS	PS/2 Keyboard & Mouse Connector	28
21	IR	Infrared Port Module Connector	29
22	USB0/1, J1	Universal Serial Bus Connector	29

1). Set System Jumpers/Switches

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). Enable this feature by setting the SW1-5 to On position, (3). Turn on your computer, (4). Turn off the computer, (5). Disable the Clear CMOS feature, (6). Turn on the computer. (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.
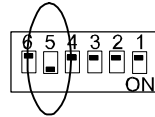
Enable (Clear CMOS)
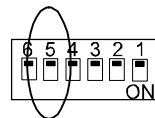
Disable (Default)
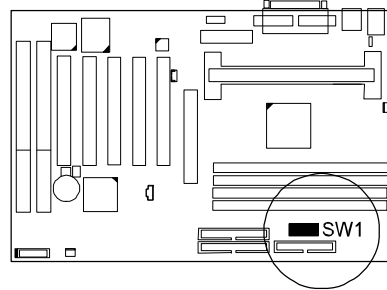
Clear Password: SW1-6

This switch allows you to enable or to disable both the keyboard and system password settings. You may need to adjust it if you forget your password. To clear the password setting: (1). Turn off your computer, (2). Enable this feature by setting the SW1-6 to On position, (3). Turn on your computer, (4). Turn off your computer, (5). Disable the Clear Password feature by setting the SW1-6 to Off position, (6). Turn on your computer, (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter
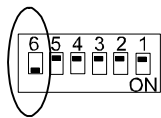
Enable (Clear Password)   Disable (Default)
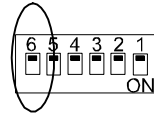
user preferences.

NOTE: When SW1-6 set at Enabled, the keyboard password (Page 56, K/B Wake-up function) will be cleared too. Users can power on the system by pushing power button.

Keyboard and Mouse Power-On Feature: KB_PWN

The 3-pin jumper provides you with the capability to power on the system by simply touching your keyboard or mouse. To enable this feature, you have to set this jumper and the related BIOS feature, **K/B Wake-up function** and **Mouse Wake-up function**, Page 56/57, that introduced in **Integrated Peripherals** section in Chapter 4.
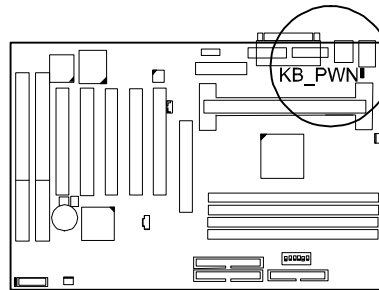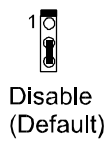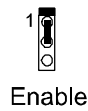
NOTE: To use this function and WOL (mentioned in Page 25) together, your power supply should have a current of 1A at 5 V Stand-by.

2). Install RAM Modules

RAM Module Configuration

This mainboard provides four onboard DIMM sockets for allowing 3.3V (unbuffered) SDRAM DIMM modules. Either 8, 16, 32, 64, 128MB, or 256*MB DIMM can be installed on these four sockets. The maximum total memory supported is up to 1GB*.

Socket	Acceptable Memory Module		Total Memory
1	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
2	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
3	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
4	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	

Total System Memory allowed up to 1GB   =

NOTE:
1. * A RAM module of this size was not available for testing at time of printing.
2. This board only supports 3.3V (unbuffered) SDRAM modules.
3. This mainboard supports DIMMs with data access time of 12ns, 10ns, 8ns or less. ECC memory and parity check are also supported.
4. If DIMM runs at the speed of 100MHz, it must meet the PC100 Specification.
5. Please use the same memory sizes of DIMM on each socket for better performance.

Install and Remove DIMMs

This mainboard supports 100MHz SDRAM DIMMs; when the system frequency set to 100MHz, PC100-compliant SDRAM should be used.

Complete the following procedures to install DIMMs:
1. Locate the DIMM slots on the mainboard.

Top View of DIMM Socket
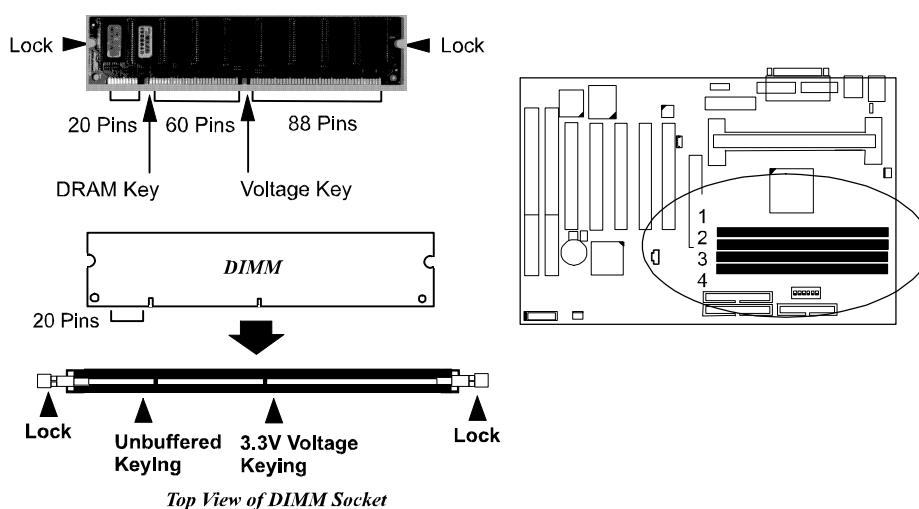
2. Install the DIMM straight down into the DIMM slot with both hands.

3. The clips of the slot will close up to hold the DIMM in place when the DIMM touches the slot   bottom.

Press the clips with both hands to remove the DIMM.

3). Install the CPU

Two options of Retention Mechanism Assembly are offered to install your CPU on this mainboard. One is installed on the mainboard by the manufacturer. The assemblies are foldable for saving space when shipping and packing. The other option is that the non-foldable Retention Mechanism Assembly (two pieces) and two Retention Mechanism Attachment Mount (two pieces) that packed in a plastic bag come with the board. You need to mount them before install the CPU module. This section introduces you how to install these devices.

I). Install with Foldable Retention Mechanism Assembly

1. Pull out two sets of the Retention Mechanism Assembly upward to the right position.
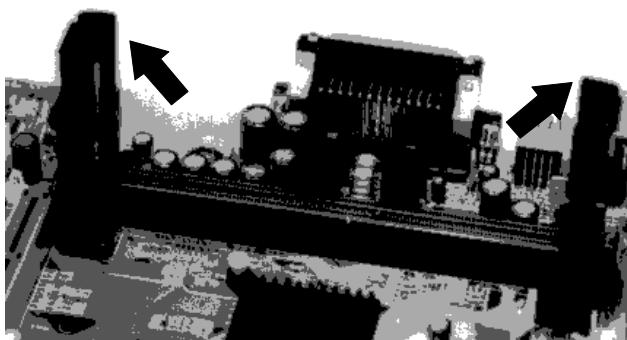
2. Insert he CPU module onto the SLOT1 along the Retention Mechanism Assembly.
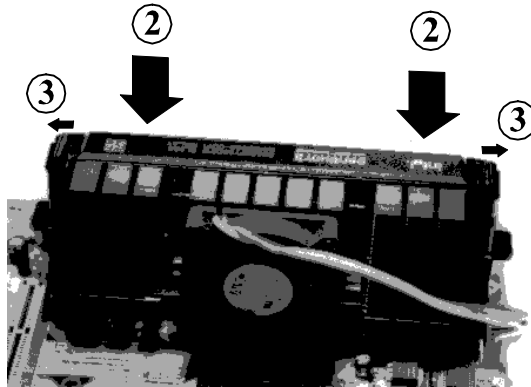
3. Pull the buttons outwards until click to the right positions.

4. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.
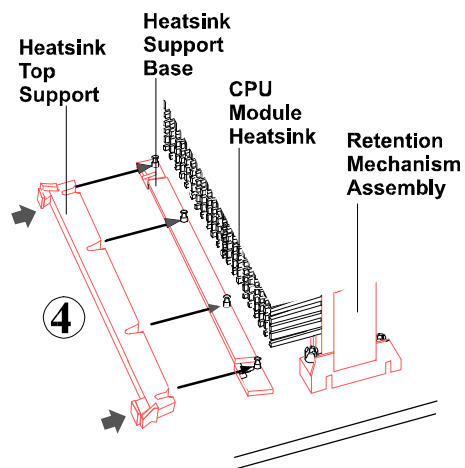
II). Install with Non-Foldable Retention Mechanism Assembly

1. Unpack the plastic bag. Take out the Retention Mechanism Assembly (two pieces) and Retention Mechanism Attachment Mount (two pieces).

Retention Mechanism Assembly
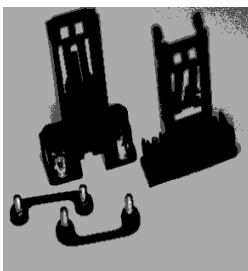
Retention Mechanism Attachment Mount

2. Locate SLOT1 on the mainboard.
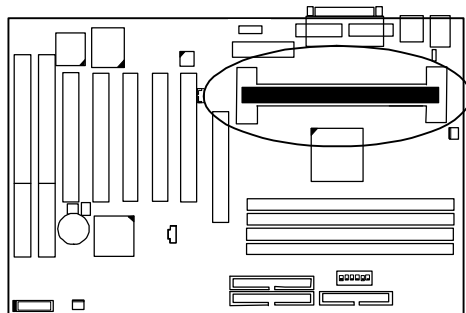
3. Install two Retention Mechanism Attachment Mounts on the board.
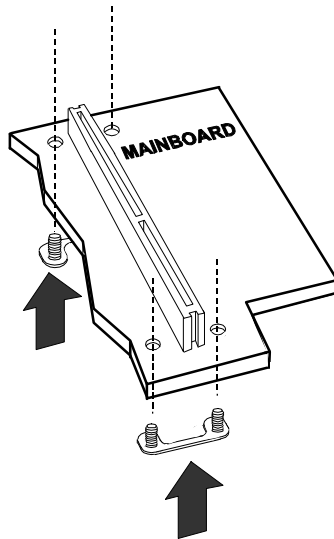
4. Place the Retention Mechanism Assembly on the board, on top of the Retention Mechanism Attachment Mounts.
   Affix the Retention Mechanism Assembly with four screws.
   (As the arrows point.)
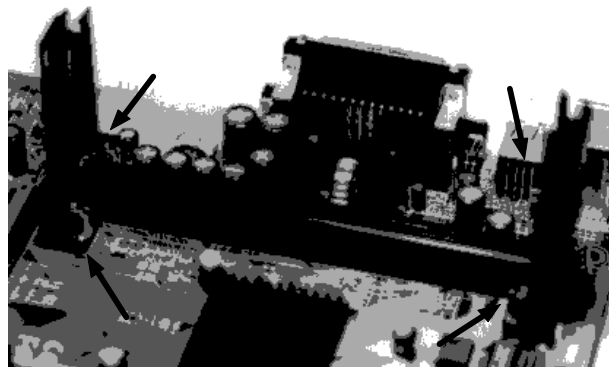
5. Insert he CPU module onto the SLOT1 along the Retention Mechanism Assembly.
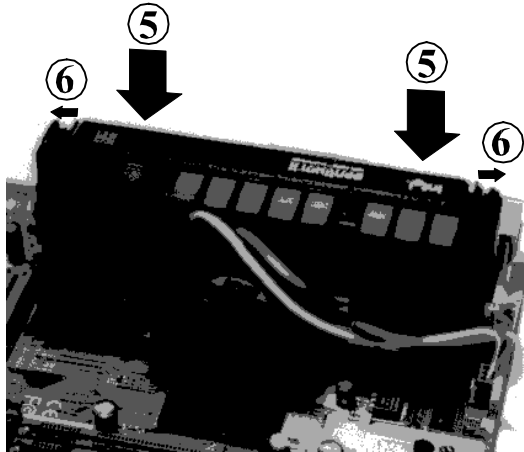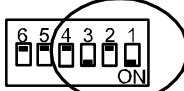
6. Pull the buttons outwards until click to the right positions.

7. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.
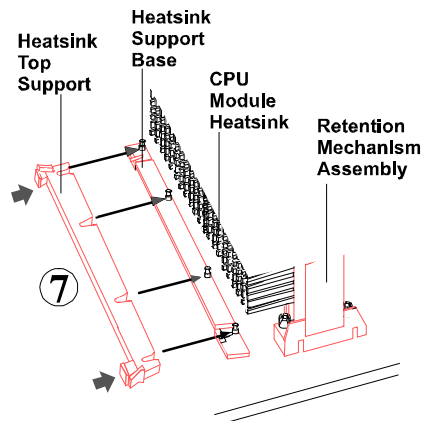
CPU Internal Frequency: SW1-1, SW1-2, SW1-3, SW1-4

These four switches are used to decide the internal frequency of the CPU.
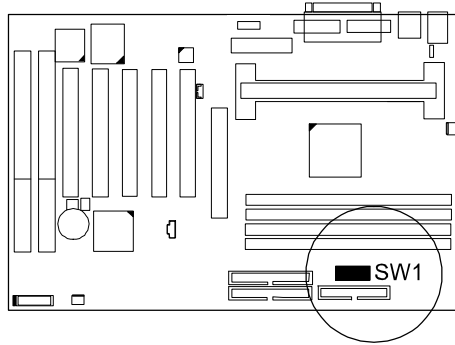
Ratio	Bus Frequency = 100MHz	Bus Frequency = 66MHz	Switches Settings
3.5 x	350MHz	233MHz	
4 x	400MHz	266MHz	
4.5 x	450MHz	300MHz	
5 x	500MHz	333MHz	

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. This mainboard features one 32-bit AGP bus, two 16-bit ISA bus, and five 32-bit PCI bus expansion slots. (PCI5 is shared with ISA2.)

CAUTION: Always turn the system power off before installing or removing any device and always observe static electricity precautions.
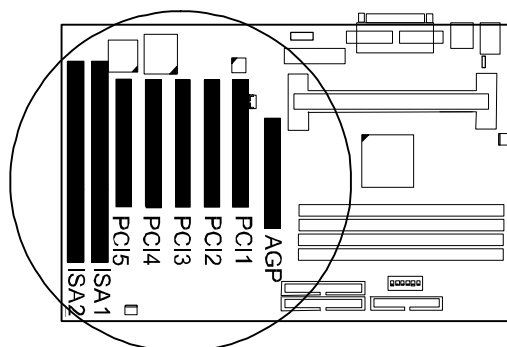
To install an expansion card, do the following:
1. Remove the chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the chassis.
   Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the chassis. Keep the slot cover mounting screw nearby.
3. Holding the edge of the expansion 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   ocking" motion until the card is firmly seated inside the 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.

22

5). Connect Devices

Connectors to Internal 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.

ATX Power Connector: POWER

This connector is connected to the ATX power supply. This board does not provide onboard 3.3V support; therefore, your ATX power supply must provide 3.3V voltage.

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.
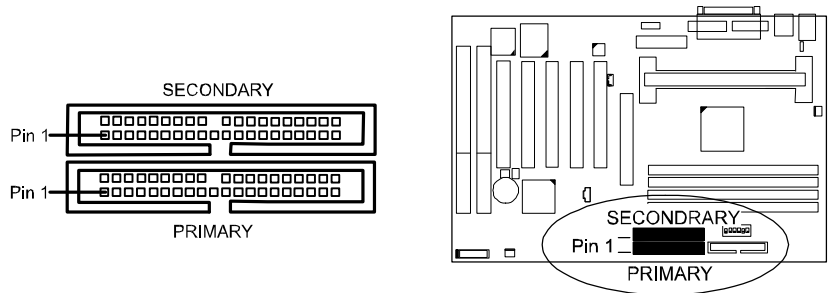
CPU Fan Connector: FAN1

This connector is linked to the CPU fan for cooling the processor temperature. Please read the CPU fan installation guide before connection.
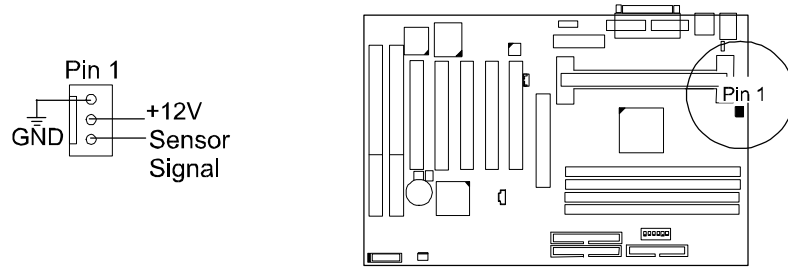
Wake-On-LAN Connector: WOL

This 3-pin connector allows remote LAN servers to manage the system that installed this mainboard via a network adapter which also supports WOL. When you install an adapter with WOL connector, please read the network adapter card installation guide for details.
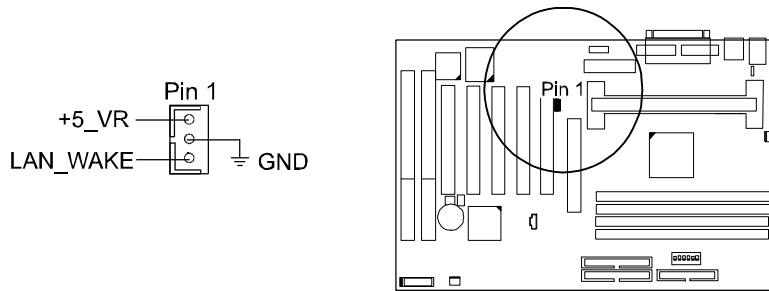
PCI Audio Card Connector: SB_LINK

This 6-pin male connector allows you to connect to your Creative® sound card or compatible.
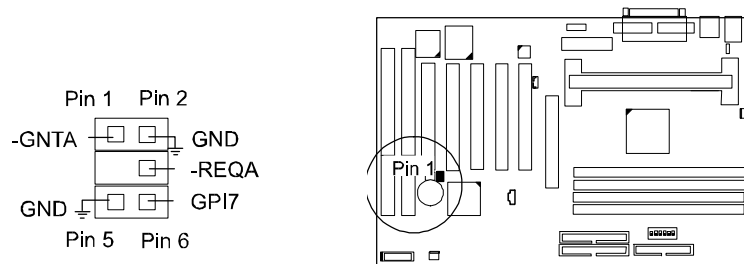
Connectors to System Case

Front Panel Block Connector

This block connector concludes 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 this buttons will not affect the function.
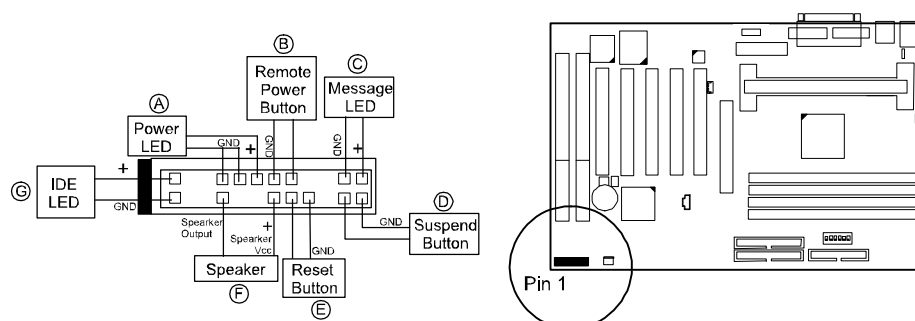
Power LED (A) is connected with the system power indicator to indicate whether the system is on/off. When the system enter the suspend mode, it blinks.

Remote Power Button (B) is connected with remote power (soft power) switch. Push this switch will turn off and on the system instead of turning the power switch on the power supply.

Message LED (C) is connected with the message LED. When the system is running normally, the indicator is on. When the system hangs up or down, the indicator will be off.

Suspend Button (D) is connected with suspend mode switch.

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

Speaker (F) is connected with the case speaker.

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

System Case Fan Connector: FAN2

This 3-pin connector links to your cooling fan on the system case to lower the system temperature.
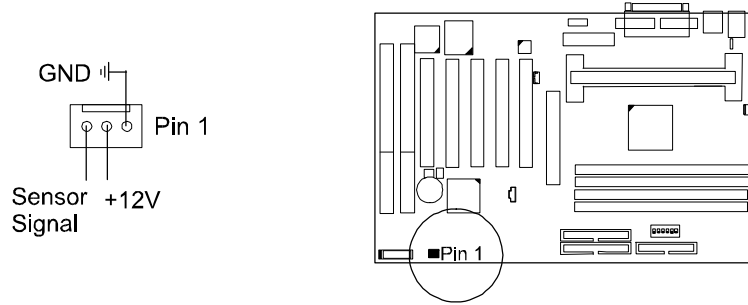
Connectors to External Devices

Serial Port Connectors: COM1, COM2

These two 9-pin D-Sub male connectors allow you to connect devices that use serial ports, such as a serial mouse or a modem.
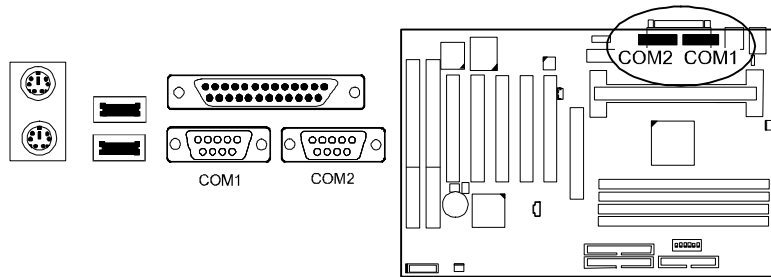
Printer Connector: LPT

This 25-pin D-Sub female connector is attached to your printer.
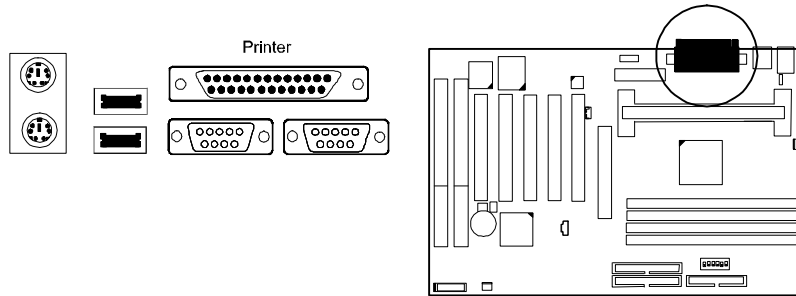
PS/2 Keyboard and Mouse Connector: KB, MS

These two 6-pin female connectors are used for your PS/2 keyboard and PS/2 mouse.
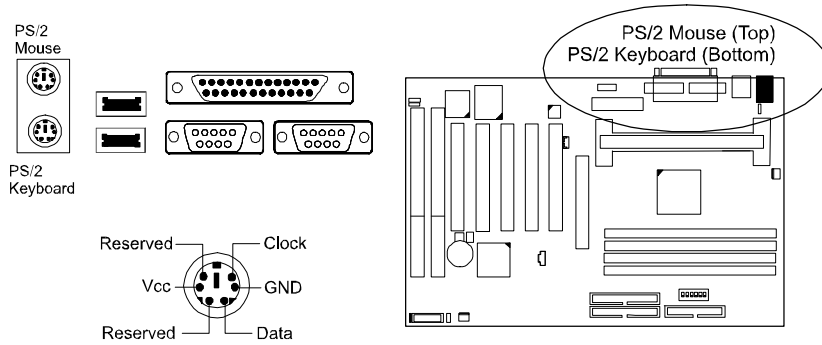
Infrared Connector: IR

An optional bracket with 9-pin D-Sub female connector is used to link to your IR device.
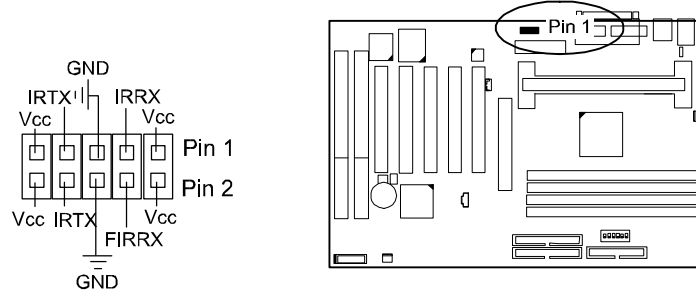
Universal Serial Bus Connectors: USB0, USB1, J1

These two connectors that integrated on the edge of the board are used for linking with USB peripheral devices. Also, this board provides an manufacturing optional connector J1 for linking with the USB socket on the front panel of some system cases. If this connector is onboard and is used, the USB0 connector is disabled. Your operating system must support USB features, such as MS Windows 98, MS Windows 95 OSR2.5 with USB Supplement.
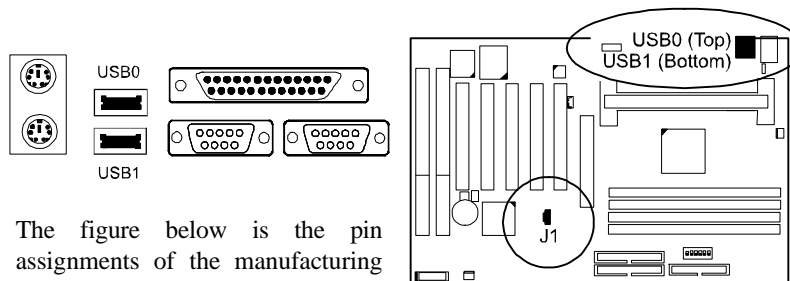
The figure below is the pin assignments of the manufacturing optional J1 connector.

29
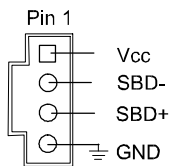
This Page Left Blank for Note

Software Utilities

The mainboard comes with helpful supporting software, contained in the CD Pro, to promote your system performance. This chapter introduces each of them with the installation procedures.

Starting Installation

To run each feature, simply click on the wanted software item in the main menu that will appear on your monitor screen automatically when it is in your CD-ROM drive. Pressing each button will start the installation of the corresponding software tool. If your mainboard did not support the feature, such as onboard audio/video/LAN chip; a message box with   unction is not supported" appears if the corresponding item on the main menu is chosen.

Virus Detection Agent

This mainboard came with a CD-ROM that contained all software tools which helps the mainboard performance. The virus scan tool was changed into **Super VB** that developed by *Paragon Micro International Inc*, instead of **PC-cillin '95/'97**. The web site of *Paragon Micro International Inc*, contained the detail information about the anti-virus tool is **www.goodpoint.com.tw.**

1. Click on the Super VB image to start the installation.
2. Click on this button to make an Emergency boot disk after the system was affected by some computer virus.
3. Click on this button to cancel it.

4. Click the right mouse button on the icon after the installation.
5. The item of System Configuration will allow you to set the virus-scanning options. The item Network Service which above System Configuration will help to solve your problem.
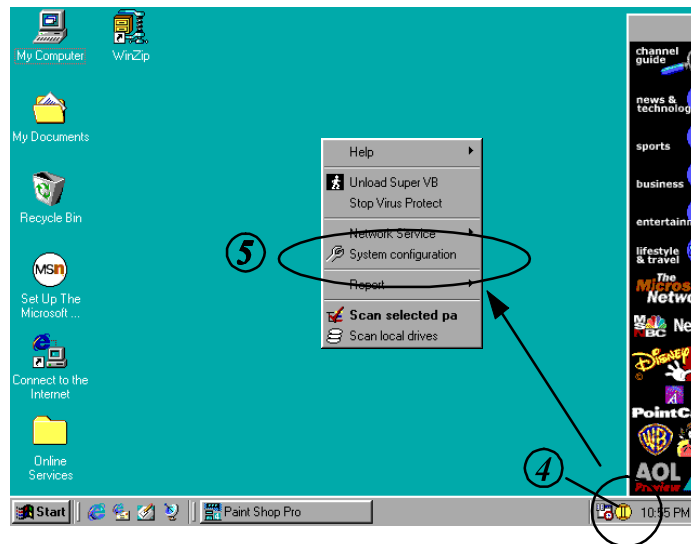
IDE Bus Master

The mainboard package provides Bus Master IDE driver in the software utilities for Windows 95/98 and Windows NT to improve the system performance. Please read the related file first by selecting on the Help button on the main menu before install it.

This mainboard supports Ultra DMA/33; therefore installs default 16-bit drivers when the operating system detects the board and the Bus Master IDE driver not installed, information in the circle like the display below indicates the system will treat it as a standard dual PCI IDE controller. It cannot take advantage of the Ultra DMA. (The attached peripheral devices must support UDMA.)
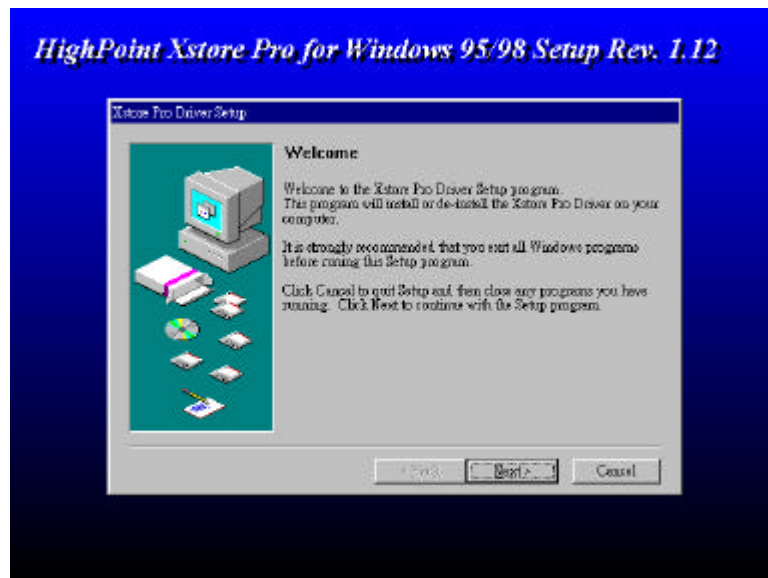
Installation

The installation is straight forward by clicking on *IDE Bus Master* item of the main menu. There is no option to be selected while the installation procedure goes. After the installation, the system should be rebooted.

Patch for Chipset

The mainboard package provides INF update file in the software utilities. This software is needed for the operating system to recognize chipset implemented on this mainboard; otherwise, the question marks in the circle will appear in your Window 95 environment.

The software tool is necessary when

Core Chip	Windows 95	Windows 98
Intel	needed	not needed
VIA	needed	needed

Please also read the related file first by selecting on the Help item on the main menu before install it.

Installation

The installation is straight forward. If your core chip a VIA chip, the three options in above menu must be selected. (For the Intel   , they are not needed.) After the installation completed, the system must be rebooted.

34

AGP VxD Support Utility

This option was provided VIA chipset-based mainboard. Before you start to install it, please read the relating README file first. **This software is necessary if you install an AGP VGA card.**

System Requirements

The VIA VxD driver is **only supported by Windows 98 and Windows 95 OSR 2.1 (4.00.950 B) or later version**.
For Windows 95/98 users -
you will need to

1. Get "USBSUPP.EXE" from Microsoft, which includes the USB supplement and a new memory manager (VMM32.VxD) needed for the AGP DIME (Direct   Memory Execute) feature.
2. Get DirectX 5.0/6.0 from Microsoft. DirectX 5.0/6.0 is the first DirectX version that supports AGP's DIME.
3. Get AGP Master (i.e., AGP VGA) Driver from VGA Supplier.
4. Get "VIAGART.VXD", a virtual device manager which usually will be installed in the following installation procedure of the Windows 95 card driver.

For Windows NT users -
VIA VxD will be supported when Windows NT 5.0 is released.
Installation.

Adobe Acrobat Reader

This software tool was given for reading the PDF (Portable Document Format) files that are very popular in website.

Browse CD

Selecting this item will allow users to view the contents of this CD Pro.

Install Audio/LAN/Video Driver

The option is needed only if your mainboard was equipped Audio/LAN/Video chip. This mainboard did not provided onboard Audio/LAN/Video chip. Users do not have to install its related drivers.

First AID

This software utility is used to monitor system's voltages, temperatures and fan speeds for Intel core chips and hardware monitor chips W83782D onboard. It does not cooperate with VIA core chips. It also conflicts with the LDCM software tools. When this utility is installed, the LDCM must be removed first.

The FIRST AID supports

Core Chip	Windows 95	Windows 98	Windows NT
Intel	Yes	Yes	No
VIA	Yes	Yes	No

LANDesk Client Manager CD (optional)

The LDCM software must be installed to use the hardware manager. It is installed for remote management over network and is of no use to non-networked systems.
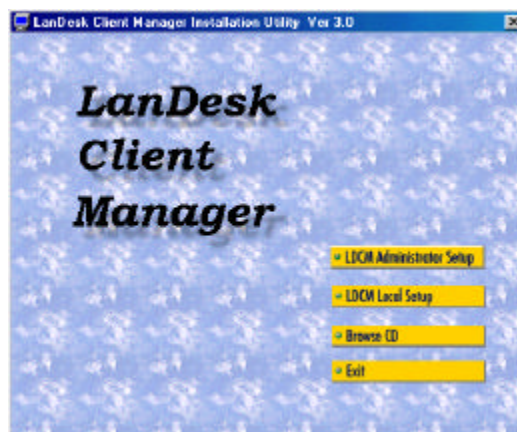
The LDCM supports

Core Chip	Windows 95	Windows 98	Windows NT
Intel	Yes	Yes	Yes
VIA	No	No	No

Specification Overview

Intel LANDesk Client Manager provides real-time PC health monitoring, alerting and self-diagnostics that will make your PCs more reliable and easier to support. Intel LANDesk Client Manager enables you to:

Review system inventory

Client Manager enables you to view hundreds of inventoried items. Some of these items are software related, while many others are hardware related.

View DMI-compliant component information

Client Manager enables you to view component information that is compliant with the Desktop Management interface (DMI). You can manage third-party DMI-compliant components not included with Client Manager.

Back up and restore system configuration files

Client Manager enables you to back up and restore system configuration files. Whenever you plan on changing the system configuration, You can make a backup set. If the system no longer works correctly, after you change the system configuration, you can simply restore the system configuration with the backup set.

> **NOTE:** By default the Windows 95 and Windows NT registry files aren't part of the snapshot file list. This means the restoration of a snapshot may not be effective.

Troubleshoot

Since Client Manager enables you to View the system inventory, you can easily troubleshoot system problem.

Receive notifications for system events

Client Manager enables you to receive notification of certain system events. For example, if the system is running low on virtual memory, you are notified of the potential problem.

Transfer files to and from client workstations
You have the ability to transfer files to and from client workstations. This is helpful, when update a client workstation driver is needed.

Remotely reboot client workstations
Administrators also have the ability to remotely reboot a workstation. This is helpful when you want system configuration changes to take effect.

Waking up a computer
You can use Client Manager to "wake up" a remote computer that is powered off or "sleeping" in a reduced-power state.

Two Options of LDCM Setup

LDCM Local Setup: Install software to monitor the *local* system. **(Recommended)** Settings can be auto-detected or changed. The installation of it is straight forward. First select *LDCM Local Setup in the main menu,* then all the way down to the end of the installation. Reboot the system.

LDCM Administrator Setup: Installs software to monitor PC systems on the network within the same bridge address with Local software installed. The installation of it is straight forward. First select *LDCM Administrator Setup in the main menu,* then all the way down to the end of the installation. Reboot the system. The administrator should install both Local and Administrator Software.   (First install *Local Setup*, then install *Administrator Setup.*)

BIOS Setup

This chapter introduces the BIOS setup for both AMI BIOS and Award BIOS. If your mainboard came with an Award BIOS, please read from Page 61 to 97.

AMI BIOS Setup

The mainboard comes with an AMI BIOS chip that 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 chapter explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

Main Setup

```
                    AMIBIOS EASY SETUP UTILITIES Ver. 1.17
               (C)1998 American Megatrends, Inc. All Rights Reserved
 Main    Advanced    Security    Exit

              System Date   Wed Nov 18 1998        ◄◄◄ Setup Help ►►►
              System Time   13:32:37

           Floppy Drive A   1.44 MB 3½
           Floppy Drive B   2.88 MB 3½

       Primary IDE Master   Auto
        Primary IDE Slave   Auto
     Secondary IDE Master   Auto
      Secondary IDE Slave   Auto

     Auto-Detect Hard Disks  [ Enter ]

 Boot Sector Virus Protection  Enabled

                                                ↑  Previous Item
                                                ↓  Next Item
                                                ↔  Select Menu

 Esc:Exit  Enter:Select  F5:Setup Defaults  F6:Original Values  F10:Save & Exit
```

The Main Setup screen is displayed above. Each item may have one or more option settings. It allows you to change the system Date and Time, IDE hard disk, floppy disk drive types for drive A: and B:.

Auto-Detect Hard Disks

Allows the system BIOS to detect all hard disk parameters automatically.

Boot Sector Virus Protection

When Enabled, a warning will be giver when any program or virus sends a Disk Format command or tries to write to the boot sector of a hard disk drive.

Advanced Setup

Advanced Setup options are displayed by choosing item from the AMI BIOS Setup main menu. All Advanced Setup options are described in this section.

Advanced CMOS Setup

```
           AMIBIOS EASY SETUP UTILITIES Ver. 1.17
        (C)1998 American Megatrends, Inc. All Rights Reserved
  Advanced

       ◀◀◀ ADVANCED CMOS SETUP ▶▶▶              ◀◀◀ Setup Help ▶▶▶

       PS/2 Mouse Support   Enabled
        Primary Display     VGA/EGA
        Password Check      Setup
     Boot To OS/2 > 64MB    No
   Wait For 'F1' If Error   Enabled
   CPU MicroCode Updation   Enabled
           L1/L2 Cache      WriteBack
         Cache Bus ECC      Disabled
   System BIOS Cacheable    Enabled
       C000,32k Shadow      Cached
       C800,16k Shadow      Disabled
       CC00,16k Shadow      Disabled
       D000,16k Shadow      Disabled
       D400,16k Shadow      Disabled
       D800,16k Shadow      Disabled
       DC00,16k Shadow      Disabled

  Esc:Back  Enter:Select  ↑↓:Select Item  F5:Setup Defaults  F6:Original Values
```

Detect Boot Virus By Trend

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

Quick Boot

Set this option to Enabled to instruct AMI BIOS to boot quickly when the computer is powered on. This option replaces the old 1MB Memory Test Advanced Setup option. The settings are Disabled or Enabled (Default).

1st Boot Device

This item allows you to select the first drive for booting up the system.
The settings are Disabled, IDE-0, IDE-1, IDE-2, IDE-3, FLOPPY (Default), FLOPTICAL, CDROM, SCSI, or NETWORK.

2nd Boot Device

This item allows you to select the second drive for booting up the system.
The settings are Disabled, IDE-0 (Default), or FLOPTICAL.

3rd Boot Device

This item allows you to select the third drive for booting up the system.
The settings are Disabled, FLOPTICAL, CDROM (Default).

4th Boot Device

This item allows you to select the fourth drive for booting up the system. The settings are Disabled (Default) or FLOPTICAL.

Try Other Boot Devices

If you select Yes, the BIOS boots up the system from other boot devices if all selected boot devices failed to boot. If No selected, the BIOS boots up the system from only the selected devices. The settings are Yes (Default) or No.

Initialize I2O Device

If set at Yes, the BIOS will initilize I2O processors, I2O storage devices, and provide INT13 support for I2O storage device. The settings are Yes (Default), No.

Floppy Access Control

It is effective only if the floppy diskette drive is accessed through BIOS INT40H function. The settings are Read-Write (Default) or Read-Only.

Hard Disk Access Control

It is effective only if the floppy diskette drive is accessed through BIOS INT40H function. The settings are Read-Write (Default) or Read-Only.

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

.M.A.R.T" stands for elf-Monitoring, Analysis and Reporting Technology". To enable it will assist you in preventing some (but not all) system down time due to hard disk drive failure. The settings are Disabled (Default) or Enabled.

BootUp 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 (Default) or Off.

Floppy Drive Swap

Set this option to Enabled to permit drives A: and B: to be swapped. The settings are Disabled (Default) or Enabled.

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 (Default).

PS/2 Mouse Support

When this option is set to Enabled, AMI BIOS supports a PS/2-type mouse.
The settings are Enabled (Default) or Disabled.

Primary Display

This option specifies the type of display monitor and adapter in the computer.
The settings are Absent, VGA/EGA (Default), CGA40x25, CGA80x25, or Mono.

Password Check

This option enables password checking every time the computer is powered on or every time AMI BIOS Setup is executed. 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 AMI BIOS is executed.
The settings are Setup (Default) or Always.

Boot To OS/2 > 64MB

This item allows you to enable the system BIOS to run with the IBM OS/2 operating system. The settings are Yes or No (Default).

Wait For   1' If Error

When set at Enabled, the BIOS will prompt F1 to wait for users if the keyboard or floppy drive/s error occurs.
The settings are Enabled (Default) or Disabled.

CPU MicroCode Updation

This feature allows technicans to update CPU MicroCode by dedicated utility set at Enabled. The settings are Disabled or Enabled (Default).

L1/L2 Cache

This feature allows users to select the cache policy. WriteThrough means that memory is updated with data held in the cache whenever the CPU issues a write cycle. On the other hand, WriteBack causes memory to be updated only under certain conditions, such as read requests to the memory whose contents are currently in the cache. WriteBack allows the CPU to operate with fewer interruptions, increasing its efficiency.

The settings are: WriteBack (Default) or WriteThrough.

Cache Bus ECC

This feure is for enabling the cache ECC function.

The settings are Disabled or Enabled (Default).

System BIOS Cacheable

Enable it to allows the contents of the F0000h system memory segment to be read from or written to the L2 cache memory. The contents of the F0000h memory segment are always copied from the BIOS ROM to system RAM for faster execution.

The settings are Disabled or Enabled (Default).

C000,32K Shadow; C800,16K Shadow; CC00,16K Shadow; D000,16K Shadow; D400,16K Shadow; D800,16K Shadow; DC00,16K Shadow

These options control the location of the contents of the ROM beginning at the specified memory location. If no adapter ROM is using the named ROM area, this area is made available to the local bus.

[Disabled] The video ROM is not copied to RAM. The contents of the video ROM cannot be read from or written to cache memory.

[Enabled] The contents of C0000h - DC00h are written to the same address in system memory (RAM) for faster execution.

[Cached] The contents of the named ROM area are written to the same address in system memory (RAM) for faster execution, if an adapter ROM will be using the named ROM area. Also, the contents of the RAM area can be read from and written to cache memory.

The settings are Disabled, Enabled, Cached.

The default setting of   000, 32K Shadow; C400, 16K Shadow" is Cached; the others are Disabled.

Advanced Chipset Setup
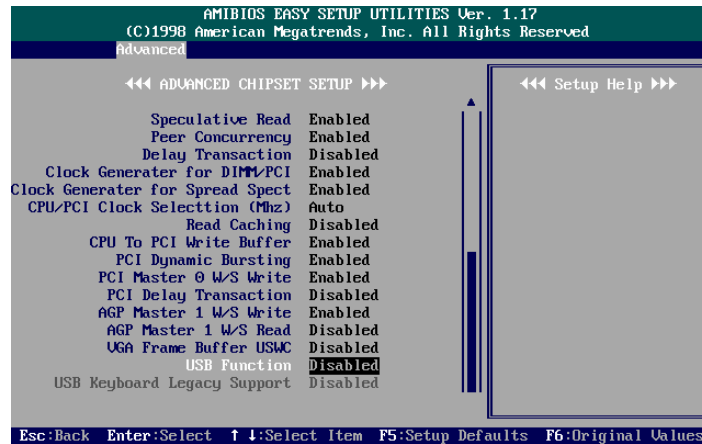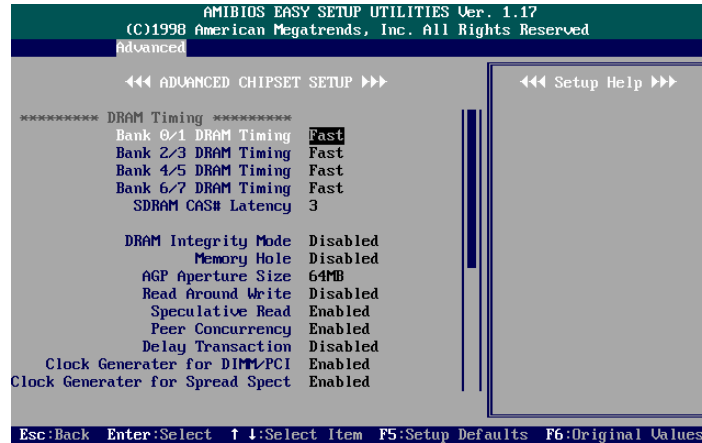
Bank 0/1 DRAM Timing; Bank 2/3 DRAM Timing;
Bank 4/5 DRAM Timing; Bank 6/7 DRAM Timing;
This feature allows you to select the DRAM read/write speed.
The settings are: Normal, Fast (Default), Turbo.

SDRAM CAS# Lattency
If any DIMM is installed, this feature allows you to select the CAS Latency.
The settings are 2 or 3 (Default).

DRAM Integrity Mode

This feature provides software configurablity of selecting between ECC (ECC generation and checking/correction) mode, or disable non-ECC mode of operation of the DRAM interface.
The settings are Disabled (Default), ECC.

Memory Hole

When enabled, the memory hole at 15MB address will be relocated to the 15~16MB address range of the ISA cycle when the processor accesses the 15~16MB address area. When Disabled, the memory hole at the 15MB address will be treated as a DRAM cycle when the processor accesses the 15~16MB address area. The settings are Disabled (Default), 512KB-640KB, or 15MB-16MB.

AGP Aperture Size

It allows you to select the main memory frame size fo AGP use.
The options are 4, 8, 16, 32, 64 (Default), 128, 256MB.

Read Around Write

This feature speeds up data read performance when it stays at Enabled. The settings are: Disabled (Default), Enabled.

Speculative Read

If a sequential data read occur, the chipset will generate a speculative read cycle to preread data before the CPU request.
The settings are: Enabled (Default), Disabled.

Peer Concurrency

Peer concurrency means: if not the same bus, the system can active different bus master cycle at the same time.
The settings are: Enabled (Default), Disabled.

Delayed Transaction

Enable this feature to force the current PCI bus master retry the current PCI bus master cycle and to accept the new PCI master request, it reaccepts the original PCI bus master and returns the PCI data to the original PCI master. It will enhance the system performance. The options are Disabled (Default) or Enabled.

Clock Generator for DIMM/PCI

When no DIMM/PCI adapter card on the slot, the clock of the slot will be stoped if this feature set at Enabled.

The options are: Enabled (Default), Disabled.

Clock Generator for Spread Spect

Set at Enable for allowing spread spectrum in order to solve the EMI solution of the clock generator.

The options are: Enabled (Default), Disabled.

CPU/PCI Clcok Selection (Mhz)

This feature allows you to set the ratio of CPU external clock to PCI bus clock. When CPU external frequency is at 66MHz. The options are: Auto (Default), 75/37.5, 83.3/41.6, 66.8/33.4. When CPU external frequency is at 100MHz. The options are: Auto (Default), 124/41.33, 112/37.3, 133.3/44.43, 100/33.3.

Read Caching

This feature is for cache read performance better.

The settings are: Disabled (Default), Enabled.

CPU To PCI Write Buffer

When enabled, it allows data and address access to the internal buffer of the South Bridge so that the CPU can be released from the waiting state. The settings are: Enabled (Default), Disabled.

PCI Dynamic Bursting

When set at Enabled, the PCI controller allows bursting PCI transfer if the consecutive PCI cycles come with the address falling in the same 1KB space. The settings are: Enabled (Default), Disabled.

PCI Master 0 W/S Write

When set at Enabled, it allows a zero-wait-state-cycle delay if the PCI master drive writes data to DRAM.

The settings are: Enabled (Default), Disabled.

PCI Delay Transaction

Enabling this feature will abort the current PCI master cycle and will accept a new PCI master request, it reaccepts the original PCI master and returns the PCI data phase to the original PCI master.

The settings are: Enabled, Disabled (Default).

AGP Master 1 W/S Write

When set at Enabled, it allows a one-wait-state-cycle delay if the AGP master drive writes data to DRAM.
The settings are: Enabled (Default), Disabled.

AGP Master 1 W/S Read

When set at Enabled, it allows a one-wait-state-cycle delay if the AGP master drive reads data from DRAM.
The settings are: Disabled (Default), Enabled.

VGA Frame Buffer USWC

When set at Enabled, it enables CPU write to video frame buffer using USWC (Unspeculative Write-Combined) way. Stay with the default setting, Disabled, when installed some older VGA card drivers. The settings are: Disabled (Default), Enabled.

USB Function

This option allows users to enable the Universal Serial Bus (USB) feature.
The options are Disabled (Default) or Enabled.

USB Keyboard/Mouse Support

If you use a USB keyboard/mouse, set at Enabled. Otherwise, keep it disabled. When enabled, allows the BIOS to detect and initiate the USB keyboard/mouse for making the keyfunctions of POST to work.
The options are Disabled (Default) or Enabled.

Power Management Setup

```
              AMIBIOS EASY SETUP UTILITIES Ver. 1.17
           (C)1998 American Megatrends, Inc. All Rights Reserved
        Advanced
            ◄◄◄ POWER MANAGEMENT SETUP ►►►        ◄◄◄ Setup Help ►►►

         Power Management/APM     Disabled
   Green PC Monitor Power State   Suspend
        Video Power Down Mode     Suspend
       Hard Disk Power Down Mode  Disabled
   Hard Disk Time Out (Minute)    Disabled
      Standby Time Out (Minute)   2
      Suspend Time Out (Minute)   4
       Throttle Slow Clock Ratio  37.5-50%
                 Modem Use IRQ    N/A
              Display Activity    Ignore
                        IRQ3      Monitor
                        IRQ4      Monitor
                        IRQ5      Ignore
                        IRQ7      Monitor
                        IRQ9      Ignore
                        IRQ10     Ignore

   Esc:Back  Enter:Select  ↑↓:Select Item  F5:Setup Defaults  F6:Original Values
```

```
              AMIBIOS EASY SETUP UTILITIES Ver. 1.17
           (C)1998 American Megatrends, Inc. All Rights Reserved
        Advanced
            ◄◄◄ POWER MANAGEMENT SETUP ►►►        ◄◄◄ Setup Help ►►►

                        IRQ7      Monitor
                        IRQ9      Ignore
                        IRQ10     Ignore
                        IRQ11     Ignore
                        IRQ13     Ignore
                        IRQ14     Monitor
                        IRQ15     Ignore
        Power Button Function     Suspend
      Restore on AC/Power Loss    Last State
      Ring Resume From Soft Off   Enabled
      LAN Resume From Soft Off    Enabled
   RTC Alarm Resume From Soft Off Disabled
              RTC Alarm Date      15
              RTC Alarm Hour      12
            RTC Alarm Minute      30
            RTC Alarm Second      30

   Esc:Back  Enter:Select  ↑↓:Select Item  F5:Setup Defaults  F6:Original Values
```

Power Management/APM

Set this option to Enabled to enable the power management and APM (Advanced Power Management) features.
The settings are Enabled or Disabled (Default)

Green PC Monitor Power State

Specifies the power management state that the Green PC-compliant video monitor enters after the specified period of system inactivity has expired. The settings are Suspend (Default), Off, Blank, or Standby.

Video Power Down Mode

This option specifies the power management state that the video subsystem enters after the specified period of system inactivity has expired.
The settings are Disabled, Standby, or Suspend (Default).

Hard Disk Power Down Mode

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

Hard Disk Time Out (Minute)

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 above.
The settings are Disabled, 1 Min (minutes), and all one minute intervals up to and including 15 Min.
The default setting is Disabled.

Standby Time Out (Minute)

This option specifies the length of the period of system inactivity when the computer is in Full-On mode before the computer is placed in Standby mode. In Standby mode, some power use is curtailed.
The settings are Disabled, 1 Min, 2 Min, and all one minute intervals up to and including 15 Min. The default setting is 2 Min.

Suspend Time Out (Minute)

This option specifies the length of the period of system inactivity when the computer is already in Standby mode before the computer is placed in Suspend mode. In Suspend mode, nearly all power use is curtailed.
The settings are Disabled, 1 Min, 2 Min, and all one minute intervals up to and including 15 Min. The default setting is 4 Min.

Throttle 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 0-12.5 %, 12.5 - 25 %, 25-37.5 %, 37.5-50 %, 50-62.5 %, 62.5 - 75%, 75-87.5 %. The default setting is 37.5-50 %.

Modem Use IRQ

This feature allows you to select the IRQ# of the system that is the same IRQ# as the modem use.

The options are: N/A (Default), 3, 4, 5, 7, 9, 10, 11.

Display Acitivity, IRQ3/4/5/7/9/10/11/13/14/15

The devices that connected to the system via these channels or ports can be set at Monitor for waking up the system when the system in Suspend mode.

The settings are Ignore or Monitor.

The default setting of Display Activity, IRQ5/9/10/11/13/15 is Ignore.

The default setting of is IRQ3/4/7/14 is Monitor.

Power Button Function

This allows you to set Power Button usage. If you select ON/OFF, pressing the Power Button will turn the system power on or off. If you select Suspend, pressing the Power Button will put the system into Suspend mode. Keeping the button pressed for 4 seconds will then put the system into Power Off mode. The settings are On/Off, Suspend (Default).

Restore on AC/Power Loss

When the system is shut down owing to the power failure, the system will not be back to power on by itself. This feature allows you to set the system back to which power status of the system when the system power is resumed. The options are: Last State (Default), Power on, Stay off.

Ring Resume From Soft Off

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 Disabled or Enabled (Default).

LAN Resume From Soft Off

An input signal from the LAN card (via WOL connector) awakens the system from a soft off state.

The options are Disabled or Enabled (Default).

RTC Alarm Resume From Soft Off

When set at Enabled, it allows you to set the time when the system to be turned on from the system power-off status.

The settings are Disabled or Enabled. The default setting is Disabled.

RTC Alarm Data

This feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are Every Day, 1, 2, 3, ..., 31 day.
The default setting is 15.

RTC Alarm Hour

This feature allows you to set the hour of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are 0, 1, 2, ..., 23 hours. The default setting is 12.

RTC Alarm Minute

This feature allows you to set the minute of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are 0, 1, 2, ..., 59 minutes. The default setting is 30.

RTC Alarm Second

This feature allows you to set the minute of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are 0, 1, 2, ..., 59 seconds. The default setting is 30.

PCI/Plug and Play Setup

```
                   AMIBIOS EASY SETUP UTILITIES Ver. 1.17
              (C)1998 American Megatrends, Inc. All Rights Reserved
     Advanced

          ◀◀◀ PCI/PLUG AND PLAY SETUP ▶▶▶              ◀◀◀ Setup Help ▶▶▶

         Plug and Play Aware O/S    No
  PCI Latency Timer (PCI Clocks)    64
       Primary Graphics Adapter     AGP
       Allocate IRQ to PCI VGA      Yes
          OffBoard PCI IDE Card     Auto
   OffBoard PCI IDE Primary IRQ     Disabled
   OffBoard PCI IDE Secondary IRQ   Disabled
              DMA Channel 0         PnP
              DMA Channel 1         PnP
              DMA Channel 3         PnP
              DMA Channel 5         PnP
              DMA Channel 6         PnP
              DMA Channel 7         PnP
                       IRQ3         PCI/PnP
                       IRQ4         PCI/PnP
                       IRQ5         PCI/PnP

  Esc:Back  Enter:Select  ↑↓:Select Item  F5:Setup Defaults  F6:Original Values
```

```
              AMIBIOS EASY SETUP UTILITIES Ver. 1.17
         (C)1998 American Megatrends, Inc. All Rights Reserved
     Advanced

         ◄◄◄ PCI/PLUG AND PLAY SETUP ►►►              ◄◄◄ Setup Help ►►►

 OffBoard PCI IDE Secondary IRQ   Disabled
                 DMA Channel 0    PnP
                 DMA Channel 1    PnP
                 DMA Channel 3    PnP
                 DMA Channel 5    PnP
                 DMA Channel 6    PnP
                 DMA Channel 7    PnP
                         IRQ3     PCI/PnP
                         IRQ4     PCI/PnP
                         IRQ5     PCI/PnP
                         IRQ7     PCI/PnP
                         IRQ9     PCI/PnP
                        IRQ10     PCI/PnP
                        IRQ11     PCI/PnP
                        IRQ14     PCI/PnP
                        IRQ15     PCI/PnP

 Esc:Back   Enter:Select   ↑↓:Select Item   F5:Setup Defaults   F6:Original Values
```

Plug and Play Aware O/S

Set this option to Yes if the operating system installed in the computer is Plug and Play-aware. AMI BIOS 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 support 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 (Default) or Yes.

PCI Latency Timer (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 (Default), 96, 128, 160, 192, 224, or 248.

Primary Graphics Adapter

When an AGP VGA and PCI VGA card installed at the same time. They will be selected to be the primary display by this feature.
The settings are PCI or AGP (Default).

Allocate IRQ to PCI VGA

When set at Yes, allows users to assign IRQs for PCI/AGP VGA cards.
The settings are No or Yes (Default).

OffBoard PCI IDE Card

The option specifies if an offboard PCI IDE controller adapter card is used. You must also specify the PCI slot where the card is installed. If an offboard PCI IDE controller is used, the onboard IDE controller is disabled. The settings are Auto (Default), Slot1, Slot2, Slot3, Slot5, Slot6.

OffBoard PCI IDE Primary IRQ

This options allow you to select the IRQ if you use an offboard primary PCI IDE card. The settings are Disabled, INTA, INTB, INTC, INTD, Hardwired. The default setting is Disabled.

OffBoard PCI IDE Secondary IRQ

This options allow you to select the IRQ if you use an offboard secondary PCI IDE card.
The settings are Disabled, INTA, INTB, INTC, INTD, Hardwired. The default setting is Disabled.

DMA Channel 0, 1, 3, 5, 6, 7

This option allows you to specify the bus type that the named DMA channels are used on.
The settings are PnP or ISA/EISA . The default setting is PnP.

IRQ3, 4, 5, 7, 9, 10, 11, 14, 15

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 AMI BIOS 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 AMI BIOS. The IRQs used by onboard I/O are configured as PCI/PnP.
The settings are PCI/PnP or ISA/EISA.
The default setting is PCI/PnP.

Peripheral Setup

```
              AMIBIOS EASY SETUP UTILITIES Ver. 1.17
          (C)1998 American Megatrends, Inc. All Rights Reserved
   Advanced

         ◄◄◄ PERIPHERAL SETUP ►►►              ◄◄◄ Setup Help ►►►

              OnBoard FDC   Auto
        OnBoard Serial PortA   3F8h/COM1
        OnBoard Serial PortB   2F8h/COM2
          Serial PortB Mode   N/A
            IR Duplex Mode   N/A
             IrDA Protocol   N/A
        OnBoard Parallel Port   378
          Parallel Port Mode   Normal
               EPP Version   N/A
           Parallel Port IRQ   7
      Parallel Port DMA Channel   N/A
          K/B Wake-up function   N/A
     Set Specific Key for Wake-up   N/A
        Mouse Wake-up function   N/A
               OnBoard IDE   Both


 Esc:Back  Enter:Select  ↑↓:Select Item  F5:Setup Defaults  F6:Original Values
```

Onboard FDC

This option enables the floppy drive controller on the mainboard.
The settings are Auto, Enabled, or Disabled. The default setting is Auto.

Onboard Serial PortA

This option enables serial port 1 on the mainboard and specifies the base
I/O port address for serial port 1. The settings are Auto, Disabled,
3F8h/COM1, 2F8h/COM2, 3E8h/COM3, 2E8h/COM4. The default setting
is 3F8h/COM1.

Onboard Serial PortB

This option enables serial port 2 on the mainboard and specifies the base
I/O port address for serial port 2.
The settings are Auto, Disabled, 3F8h/COM1, 2F8h/COM2, 3E8h/COM3,
2E8h/COM4. The default setting is 2F8h/COM2.

Serial PortB Mode

Select an operating mode for the second serial port. Stay with the default
setting, Normal, if you use COM2 as the serial port as the serial port,
instead as an IR port.
The options are: Normal (Default), IrDA, ASK IR.

IR Duplex Mode

When the option IrDA of the above feature selected, this feature appears on the display to allow users to select the duplex mode.
The options are: Full Duplex, Half Duplex (Default).

IrDA Protocol

When the option IrDA or ASK IR of the feature Serial PortB Mode selected, this field allows users to select the protocol of IrDA.
The options are: 1.6 micro second, 3/16 (Default).

Onboard Parallel Port

This option enables the parallel port on the mainboard and specifies the parallel port base I/O port address.
The settings are 378 (Default), 278, 3BC, Auto, or Disabled.

Parallel Port Mode

This option allows you to select the mode of the parallel port. The settings are Normal (Default), Bi-Dir, EPP, or ECP.

EPP Version

This option allows you to select the EPP version.
The settings are 1.9 (Default), 1.7.

Parallel Port IRQ

This option allows you to select the IRQ of the parallel port.
The settings are 5 or 7 (Default).

Parallel Port DMA Channel

This option allows you to select the DMA channel of the parallel port.
The settings are 1 or 3 (Default).

K/B Wake-up function

This feature allows users to wake up the system by keyboards from the soft-off status. If set at Password, the power button will not be able to power-on the system.
The options are: Disable (Default), Specifc key, Any key, Password.

Set Sepecific Key for Wake-up

When the feature of K/B Wake-up function set at Specific key, this field allows you to select a set of specific key to power on your computer.

The options are: Ctrl-F1 (Default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F2, Ctrl-F11, Ctrl-F12.

Mouse Wake-up function

This feature allows you to select mouse to power on the computer system by double clicking either on the left button or right button of your mouse.

The options are: Disable (Default), Left-button, Right-button.

OnBoard IDE

Set this option to Enabled to specify that the IDE controller on the PCI local bus has bus mastering capability.

The settings are Disabled, Primary, Secondary, Both (Default).

Hardware Monitor Setup

```
             AMIBIOS EASY SETUP UTILITIES Ver. 1.17
         (C)1998 American Megatrends, Inc. All Rights Reserved
         Advanced

         ◀◀◀ HARDWARE MONITOR SETUP ▶▶▶              ◀◀◀ Setup Help ▶▶▶

                 System Thermal  Ignore
      Thermal Slow Clock Ratio  50.00-56.25%
      CPU Critical Temperature  65°C/149°F
      CPU Shutdown Temperature  70°C/158°F
         Current CPU Temperature  80°C/176°F
Current CPU External Temperature  80°C/176°F
      Current System Temperature  39°C/102°F
         Current CPU Fan Speed  4218 RPM
      Current Chassis Fan Speed  4115 RPM
                         Vcore  0.512 V
                         Vinr0  0.528 V
                          Vsb   2.144 V
                      + 3.300V  0.544 V
                      +12.000V  2.188 V
                      -12.000V  -11.896 V
                       +5.000V  0.938 V

Esc:Back   Enter:Select   ↑ ↓:Select Item   F5:Setup Defaults   F6:Original Values
```

This feature allows end users and technicians to monitor the data provided by the LDCM function of this board.

When System Thermal set at Monitor, the system will slow down the CPU clock by the setting of Thermal Slow Clock Ratio when the system temperature approches the setting of CPU Critical Temperature. The CPU will be shut down when the CPU Shutdown Tempeature arrives.

The optons of System Thermal are: Ignore (Default), Monitor.

The options of Thermal Slow Clock Ratio are: 0-6.25%, 6.25-12.5%, 18.75-25%; 31.25-37.5%; 37.5-43.75%; 43.75-50%; 50-56.25%; 56.25-6

The options of CPU Critical Temperature are: Disabled, $50^{o}C/122^{o}F$, $55^{o}C/131^{o}F$, $60^{o}C/140^{o}F$, $65^{o}C/149^{o}F$ (Default), $70^{o}C/158^{o}F$, $75^{o}C/167^{o}F$.

The options of CPU Shutdown Tempeature are: Disabled, $55^{o}C/131^{o}F$, $60^{o}C/140^{o}F$, $70^{o}C/158^{o}F$ (Default), $75^{o}C/167^{o}F$.

Security Setup

Set Supervisor and User Passwords: You can set either a Supervisor password or a User password. If you do not use a password, Just press **Enter** when the password prompt appears. 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 AMI BIOS is run). You can enter a password by typing the password on the keyboard. When you select Supervisor or User, AMI BIOS prompts for a password. You must set the Supervisor password before you can set the User password. Enter a 1 to 6 character password. The password does not appear when typed.

Changing a Password: Enter the password and press **Enter**. 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 to return to the AMI BIOS Main Menu.

Set Keyboard Wake Up Password:

It allows When set at Password, it allows you to set a password to power the system. Press the Enter key when you are prompted to set the power-on password. Type it up to five characters and press the Enter key; then confirm it by typing the password again and pressing the Enter key to complete the setting procedures. To disable the power-on password, press the Enter key when it is disabled. When the power-on password is set, the system can not be powered on by power button. Once the power-on password is set, you can power on the system simply by entering the password. This feature offers the security on your computer system.

Exit Setup

```
              AMIBIOS EASY SETUP UTILITIES Ver. 1.17
            (C)1998 American Megatrends, Inc. All Rights Reserved
  Main    Advanced    Security    Exit

         Exit Saving Changes   [ Enter ]        ◀◀◀ Setup Help ▶▶▶
       Exit Discarding Changes [ Enter ]
        Load Optimal Settings  [ Enter ]     Write the current
       Load Fail Safe Settings [ Enter ]     settings to CMOS &
        Load Original Values   [ Enter ]     exit




                                               ↑   Previous Item
                                               ↓   Next Item
                                               ↔   Select Menu

  Esc:Exit  Enter:Select  F5:Setup Defaults  F6:Original Values  F10:Save & Exit
```

Exit Saving Changes allows you to write the current settings to CMOS and exit.

Exit Discarding Changes allows you to exit without writing the current settings to CMOS.

Load Optimal Settings is selected for settings which provide the best system performance.

Load Fail Safe Settings is for settings that provide a more efficient computer. If the computer will not boot, select this option and try to diagnose the problem after the computer boots. These settings do not give optimal performance.

Load Original Values recalls your last set of previous settings. This option is convenient if you change settings and decide you wish to return to the previous settings.

AMI BIOS Flash Software

The mainboard package provides 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 about, please visit FIC Online at www.fic.com.tw.

Downloading BIOS File

Format a bootable system diskette, 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 by 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 relating README file, please read it if need.

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

> **!** **CAUTION:** If Do not turn off or reset the computer during the flash process.

Loading New BIOS Defaults

Once the BIOS has been flashed successfully,
1. remove the diskette and reboot the system.
2. Press *Delete* key while system booting-up to enter **Load Optimal Settings** menu
3. Select **Exit Saving Changes** to complete the whole process.

Award BIOS Setup

Your mainboard may come with an Award BIOS chip that 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. The following sections explained the information contained in the Setup program and told you how to modify the settings according to your system configuration. If you use VB-601 mainboard, some of the setup introductions were listed from Page 82 to 97.

CMOS Setup Utility

```
            ROM PCI/ISA BIOS (2A6LFF0A)
                 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     F5 : Menu in BIOS    ↑ ↓ → ←  :  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 (2A6LFF0A)
                        STANDARD CMOS SETUP
                      AWARD SOFTWARE,  INC.

  Date  (mm:dd:yy) : Wed, Oct 15 1998
  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
                                      Extended Meory: 31744K
  Video   :  EGA/VGA                  Other Memory:    384K
  Halt On :  All Errors               Total Memory: 32768K

  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.

> **NOTE:** If your mainboard is a VB-601, please read from Page 82 to 97 for its BIOS setup.

BIOS Features Setup

```
                    ROM PCI/ISA BIOS (2A6LFF0A)
                        BIOS FEATURES SETUP
                       AWARD SOFTWARE,  INC.

Anti-Virus Protection      : Enabled    Video    BIOS  Shadow   : Enabled
CPU Internal Cache         : Enabled    C8000 - CBFFF  Shadow   : Disabled
External Cache             : Enabled    CC000 - CFFFF  Shadow   : Disabled
CPU L2 Cache ECC Checking   : Enabled    D0000 - D3FFF  Shadow   : Disabled
Quick Power On Self Test    : Enabled    D4000 - D7FFF  Shadow   : Disabled
Boot From LAN First        : Enabled    D8000 - DBFFF  Shadow   : Disabled
Boot Sequence              : A, C, SCSI DC000 - DFFFF  Shadow   : Disabled
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
Security Option            : Setup      Esc: Quit       ↑↓→← : Select Item
IDE Second Channel Control  : Enabled    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
Report No FDD For WIN 95    : Yes        F7 : Load Setup Defaults
```

Anti-Virus Protection

This feature starts the virus scan tool to detect if boot virus 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.

CPU L2 Cache ECC Checking

This feature allows users to activate the CPU Level 2 cache error check and correction function. 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/ECC Check

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

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.

IDE Secondar Channel Control

The chipset includes a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary onchip IDE interface. Select Disabled to deactivate this feature if you install a secondary add-on IDE interface. The options are: Enabled (Default), Disabled.

PCI/VGA Palette Snoop

Set this feature to be 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.

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 is set 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, system will still detect and recognize of a floppy drive(s).
The options are: Yes (Default), Enabled.

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.

C8000-CBFFF to DC000-DFFFF Shadow

These fields are sued for showding other expansion card ROMs. If users install other expansion cards with ROMs on them, users will need which addresses the ROMs use to shadow them specifically. Shadowing a ROM reduces the memory available between 640KB and 1024KB by the amount used by this purpose. The options are: Disabled (Default), Eanbled.

Chipset Features Setup

```
                    ROM PCI/ISA BIOS (2A6LFF0A)
                        CMOS SETUP UTILITY
                      CHIPSET FEATURES SETUP

 SDRAM Controlled by      : SPD        Auto Detect DIMM/PCI Clk    : Enabled
                                       Spread Spectrum Modulated   : Enabled
                                       CPU Host/PCI Clock          : Default

 Memory Hole At 15Mb Addr. : Disabled
 Read Around write        : Disabled
 Concurrent PCI/Host      : Enabled
 Video RAM Cacheable      : Disabled
 AGP Aperture Size        : 64M
 AGP-2X Mode              : Enabled
 C2D Post-Write Buffer    : 4-Level
 Read DRAM Prefetch Buf   : 4-Level
 DRAM Read Request Rate   : 3T
 OnChip USB               : Disabled

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

SDRAM Controlled by

If the SDRAM you are using supports Serial Presence Detect (SPD), the BIOS can recognize its specificity. Then, do automatic timer setting by SPD data. The options are: SPD (Default), Manual.

Bank 0/1 DRAM Timing; Bank 2/3 DRAM Timing; Bank 4/5 DRAM Timing; Bank 6/7 DRAM Timing;

This feature allows you to select the DRAM read/write speed when the above feature set at Manual. The options are: Absent 10ns (Default), Absent 8ns.

Memory Hole At 15M Addr.

When you install a Legacy ISA card, this feature allows you to select the memory hole   address range of the ISA cycle when the processor accesses the selected address area. Please read your card manual for detail 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, 14M-16M, Disabled (Default).

Read Around Write

This feature speeds up data read performance when it stays Enabled.
The options are: Enabled, Disabled (Default).

Concurrent PCI/Host

If eache bus master cycle does not take the same path, it allows for multiple bus master cycles to be activated at the same time.
The options are: Disabled (Default), Enabled.

Video RAM Cacheable

Selecting Enabled allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.
The options are: Enabled (Default), Disabled.

AGP Aperture Size

It allows you to select the main memory frame size fo AGP use.
The options are 4, 8, 16, 32, 64M (Default).

AGP-2X Mode Support

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

C2D Post-Write Buffer

When CPU write to DRAM will keep in the chipset buffer first. The cycle is quick than direct write to DRAM. The 4-Level will get more buffer than the 1-Level does. The options are: 4-Level (Default), 1-Level.

Read DRAM Prefetch Buf

The chipset will give different priority for DRAM blocks. If the access is more frequently. The chipset will prefetch the DRAM data automatically. The 4-Level will get more buffer than the 1-Level does.
The options are: 4-Level (Default), 1-Level.

DRAM Read Request Rate

When the CPU asserts a cycle to the chipset, the chipset will delay 2T or 3T to assert to DRAMs. The options are: 3T (Default), 2T.

OnChip USB

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

USB Keyboard Support

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

Auto Detect DIMM/PCI Clk

Set this field at Enabled to allow auto detection of DIMM clock speed. The options are: Enabled (Default), Disabled.

Spread Spectrum Modulated

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

CPU Host/PCI Clock

This feature allows you to set the CPU/PCI clock frequency. The default setting, Default, will detect your CPU/PCI clock frequency automatically. The recommended CPU clock frequencies are 66 and 100MHz. The other options may effect the system perfomance. If you set a unappropriate option which leads to a booting problem, keep pressing the Insert key until the display appears will solve it.

The options are: Default (Default), 68/34 MHz, 75/37 MHz, 83/41 MHz, 66/33 MHz, 103/34 MHz, 112/33 MHz, 133/44 MHz, 100/33 MHz.

Power Management Setup

```
                    ROM PCI/ISA BIOS (2A6LFF0A)
                      POWER MANAGEMENT SETUP
                        AWARD SOFTWARE,   INC.

Power Management     : User Define       Primary INTR        : ON
Video Off Method     : Suspend -> Off    IRQ3   (COM 2)      : Primary
Video Off After      : V/H SYNC+Blank    IRQ4   (COM 1)      : Primary
MODEM Use IRQ        : 3                 IRQ5   (LPT 2)      : Primary
Soft-Off by PWR-BTTN : Dely 4 Sec        IRQ6   (Floppy Disk) : Primary
HDD Power Down       : Disable           IRQ7   (LPT 1)      : Primary
Doze Mode            : Disable           IRQ8   (RTC Alarm)   : Disabled
Suspend Mode         : Disable           IRQ9   (IRQ2 Redir)  : Secondary
PWRON After PWR-Fail  : Former-Sts       IRQ10  (Reserved)    : Secondary
VGA                  : OFF               IRQ11  (Reserved)    : Secondary
LPT & COM            : LPT/COM           IRQ12  (PS/2 Mouse)  : Disabled
HDD & FDD            : ON                IRQ13  (Coprocessor) : Primary
DMA/master           : OFF               IRQ14  (Hard Disk)   : Primary
Wake Up On LAN       : Enabled           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
                                         F6  : Load BIOS Defaults
                                         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.

Video Off Option

This feature provides the selections of the video display power saving mode. The option Suspend - Off allows the video display to go blank if the system enters Suspend mode. The option All Modes - Off allows the video display to go blank if the system enters Doze mode or Suspend mode. The option Always On allows the video display to stay in Standby mode even when the system enters Doze or Suspend mode.

The options are: Suspend - Off (Default), All Modes -> Off, Always On.

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 (Default), DPMS Support, Blank Screen.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem's IRQ#.

The options are: 3 (Default), 4, 5, 7, 9, 10, 11.

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 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: Disabled (Default), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

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: Disabled (Default), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

Soft-Off by PWR-BTTN

The selection Delay 4 Sec. will allow the system shut down after 4 seconds after the power button is pressed. The selection Instant-Off will allow the system shut down immediately once the power button is pressed.
The settings are: Delay 4 Sec. (Default), or Instant-Off.

VGA

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

DMA/master

To set this feature at ON activates that Power Management feautre (PM) wake-up event for the DMA or bus master (of the LAN card or/and SCSI card). The options are: OFF (Default), ON.

Wake Up On LAN

When set at Enabled, an input signal comes from the other client/server on the LAN awakes the system from a soft off state if connected over LAN.
The options are Disabled or Enabled (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, Disabled (Default).

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).

Primary INTR

Whe the Primary interrupt (the Primary option in the featuer of IRQ# Activity) generates will make the Power Management feautre (PM) wake-up event on. If set at OFF, all the primary interrupt will not wake-up the systetm. 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, 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 options of IRQ 9, 10, 11 are: Secondary.

PNP/PCI Configuration

```
              ROM PCI/ISA BIOS (2A6LFF0A)
                 PNP/PCI CONFIGURATION
                  AWARD SOFTWARE,  INC.

 PNP OS Installed       : No        CPU to PCI Write Buffer   : Enabled
 Resources 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     : Disabled
                                      AGP Master 1 WS Write     : Enabled
                                      AGP Master 1 WS Read      : Disabled

                                      PCI IRQ Actived By    : Level
                                      Assign IRQ For USB   : Enabled
                                      Assign IRQ For VGA   : Enabled
                                      Assign IRQ For ACPI  : IRQ10

                                      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 one, such as Windows NT, Windows 95, select Yes. The options are: No (Default), Yes.

esources Controlled By

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

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).

IRQ Sequence

This feature allows you to select the PCI IRQ sequence. The options are: 15, 11, 10, 9, 12, 14, 5, 7, 3, 4; 9, 10, 11, 5, 7, 4, 3, 12, 15, 14 (Default).

CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of the system controller; so 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 consecutive 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, Enabled (Default).

PCI Master Read Prefetch

When set at Enabled, the memory controller will prefetches data DRAM if the PCI bus master reads data from DRAM.
The options are: Enabled, Disabled (Default).

CI#2 Master 1 WS Write

When set at Enabled, it allows a one-wait-state TRDY# response if PCI bus master writes data to target. The options are: Enabled (Default), Disabled.

PCI#2 Master 1 WS Read

When set at Enabled, it allows a one-wait-state TRDY# response if PCI bus master reads data from target. The options are: Enabled, Disabled (Default).

PCI IRQ Actived By

We suggest that you set this to its default configuration unless you are a qualified technician. The options are: Level (Default), Edge.

Init Primary Display

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

Assign IRQ For VGA

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

Load BIOS Defaults

BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance. 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.

Integrated Peripherals

```
                    ROM PCI/ISA BIOS (2A6LFF09)
                       INTEGRATED PERIPHERALS
                        AWARD SOFTWARE, INC.

  OnChip IDE Channel0   : Enabled      Onboard Serial Port 2 :
  OnChip IDE Channel1   : Enabled      UART Mode Select      :
  IDE Prefetch Mode     : Enabled      RxD , TxD Active      : Hi, Lo
  IDE HDD Block Mode    : Enabled      IR Transmission delay : Enabled
  Primary Master PIO    : Auto         Onboard Parallel Port :
  Primary Slave PIO     : Auto         Parallel Port Mode    :
  Secondary Master PIO  : Auto         ECP Mode Use DMA      : 3
  Secondary Slave PIO   : Auto         EPP Mode Select       : EPP1.7
  Primary Master UDMA   : Auto
  Primary Slave UDMA    : Auto
  Secondary Master UDMA : Auto
  Secondary Slave UDMA  : Auto
  Init Display First    : PCI Slot

  POWER ON Function   :                Esc : Quit       ↑↓→← : Select Item
  KB Power ON Password : Enter         F1  : Help        PU/PD/+/- : Modify
  Hot Key Power ON     : Ctrl-F1       F5  : Old Values  (Shift)F2 : Color
  KBC input clock      : 8 Mhz         F6  : Load BIOS Defaults
  Onboard FDC Controller : Enabled     F7  : Load Setup Defaults
  Onboard Serial Port 1  : 3F8/IRQ4
```

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 prot 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.

Primary Master PIO

Allows an automatic or a 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 a 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 a 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 a 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), Disabled.

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), Disabled.

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), Disabled.

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), Disabled.

Init Display First

When you install an AGP VGA card and/or 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.

POWER ON Function

This feature provides you with several ways to power on the system; they are: BUTTON ONLY (press the power button), Password (enter a password to power on the system), Mouse Right (click the mouse right button), Mouse Left (click the mouse left button), Hot Key (press the selected hot key). To use this feature, you have to set the jumper KB_PWN in Chapter 2 at Enable. The options are: BUTTON ONLY (Default), Password, Mouse Right, Mouse Left, Hot Key.

KB Power On Password

When set the POWER ON Function at Password, this feature will appears on the monitor. It allows you to set a password to power the system. Press the Enter key when you are prompted to set the power-on password. Type it up to five characters and press the Enter key; then confirm it by typing the password again and pressing the Enter key to complete the setting procedures. To disable the power-on password, press the Enter key when it is disabled. When the power-on password is set, the system can not be powered on by the power button, mouse, or hot key. Once the power-on password is set, you can power on the system simply by entering the password. This feature offers the security on your computer system.

Hot Key Power ON

When set POWER ON Function at Hot Key, this feature will appears on the monitor. It allows you to select a hot key to power on your computer.
The options are: Ctrl-F1 (Default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F2, Ctrl-F11, Ctrl-F12.

KBC input clock

This feature allows you to select different KBC input clocks which your keyboard actually supported. Please read your keyboard manual also for more information. The options are: 6, 8 (Default), 12, 16 MHz.

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: 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: 2F8/IRQ3 (Default), 3E8/IRQ4, 2E8/IRQ3, 3F8/IRQ4, Disabled.

UART Mode Select

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set at Normal, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: Normal (Default), IrDA, ASKIR.

RxD , TxD Active

This feature is available only if the item, UART 2 Mode, is set at ASKIR or HPSIR. The feature allows you to select the active signals of the reception end and the transmission end. This is for technician use only.
The options are: Hi, Lo (Default); Hi, Hi; Lo, Hi; Lo, Lo.

IR Transmission Delay

When Enabled, the transmission delays 4 characters-time (40 bit-time) if SIR is changed from RX mode to TX mode. When Disabled, no transmission delay if SIR is changed from RX mode to TX mode.
The options are: Enabled (Default), Disabled.

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: SPP (Default), EPP, ECP, ECP+EPP.

EPP Mode Select

If your select EPP or ECP+EPP in Parallel Port Mode, this feature allows you to select the EPP type version.

The options are: EPP1.9, EPP1.7 (Default).

ECP Mode Use DMA

If your select ECP or ECP+EPP in Parallel Port Mode, this feature allows you to select Direct Memory Access (DMA) channel.

The options are: 3 (Default), 1.

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 System is selected under the Security Option field and the Supervisor Password is enabled, you will be prompted for the Supervisor Password every time you try to enter the CMOS Setup Utility. If System is selected and the User Password is enabled, you will be requested to enter the User Password every time you reboot the system. If Setup is selected under the Security Option field and the User Password is enabled, you will be prompted only when you reboot the system.

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)** are recommended by the system BIOS. You may also keys in your own parameters instead of setting by the system BIOS. After all settings, press Esc key to return the main menu. For confirmation, enter the Standard CMOS Setup feature.

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)?**

Award BIOS Flash Software

The board package provides BIOS flash software tool in the software utilities. This software feature is provided for upgrading BIOS use. To start the program, click on *Browse CD* in the main menu, 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 about, please visit FIC Web Site http:// www.fic.com.tw/.

!

CAUTION: Do not turn off or reset the computer during the flash process.

Downloading BIOS File

Format a bootable system diskette by inserting an empty floppy disk into floppy disk drive and by typing **format a: /s**, visit the FIC Web Site http:// www.fic.com.tw/. Please visit *BIOS Update* page in FIC   Technical Support section, then select the BIOS file you need. Download it to your bootable diskette. The next two sections introduce you two ways to flash your old version BIOS.

Method 1: Upgrading BIOS File under DOS

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

Command: {flash tool file}{space}{downloaded BIOS file} / cc <Enter>
Parameter **CC** stands for **Clear CMOS**. It is most frequently used. The other parameters are listed in AWDFlash.txt file or Type {flash tool file}/?, please read it if need. After press *Enter* key, a FLASH MEMORY WRITER menu will appear. Enter the new BIOS file name with its extension file name into the text box after **File Name to Program** . If you want to save your old BIOS (this is recommend), select **Y** to **Do You Want To Save Bios,** then type the old BIOS name and the extension after **FILE NAME TO SAVE:**. Select **N** to **Do You Want To Save Bios**, if you do not want to save your old BIOS. After the decision on saving the old BIOS or not (saving the old BIOS file is strongly recommended), select **Y** to **Are you sure to program** when the next menu appears; wait until a message shows **Message: Power Off or Reset the system.**

Loading New BIOS Defaults

Once the BIOS has been flashed successfully,
1.   remove the diskette and reboot the system.
2.   Press *Delete* key to enter **CMOS SETUP UTILITY** menu while booting.
3.   Select **LOAD SETUP DEFAULTS** and load the new BIOS default values.
Finally execute **SAVE AND EXIT SETUP** to complete the whole process.

Method 2: Flash BIOS During POST

Place the diskette containing the flash tool AWDFlash.exe and the new version BIOS file (.bin file) in the diskette drive (assume the diskette drive is A.). Boot the system up, while the message   LT-F2" appears, to press ALT key and F2 at the same time will start flashing BIOS, instead of doing it under the DOS mode.

BIOS Features Setup (for VB-601 only)

NOTE: Please read Page 74 for Load BIOS Defaults and Load Setup Defaults; Page 79 for Supervisor and User Password setup; Page 79 for IDE HDD auto detection; Page 80 for Save & Exit setup; Page 80 for Exit without Saving; Page 80 for BIOS flash procedures.

```
                    ROM PCI/ISA BIOS (2A69KF09)
                      CHIPSET FEATURES SETUP
                      AWARD SOFTWARE,  INC.

  Detect Boot Virus By Trend     : Enabled    Video  BIOS Shadow       : Enabled
  CPU Internal Cache             : Enabled
  External Cache                 : Enabled
  CPU L2 Cache ECC Checking      : Enabled
  Quick Power On Self Test       : Enabled
  Boot From LAN First            : Enabled
  Boot Sequence(LS120/ZIP100)    : A, C, SCSI
  Swap Floppy Drive              : Disabled
  Boot Up NumLock Status         : On
  Typematic Rate Setting         : Disabled
  Typematic Rate (Chars/Sec)     : 6
  Typematic Delay (Msec)         : 250
  Security Option                : Setup
  PS/2 mouse function control    : Enabled    Esc : Quit         ↑↓→← : Select Item
                                              F1  : Help         PU/PD/+/- : Modify
  OS Select For DRAM > 64MB      : Non-OS2    F5  : Old Values    (Shift)F2  : Color
                                              F6  : Load BIOS Defaults
                                              F7  : Load Setup Defaults
```

Detect Boot Virus By Trend
This feature starts the virus scan tool to detect if boot virus 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.
The options are: Enabled (Default), Disabled.

CPU L2 Cache ECC Checking

This feature allows users to activate the CPU   Level 2 cache   error check and correction function.
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 (LS120/ZIP100)

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.

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. When this item is enabled, you may change the typematic repeat rate.
The options are: Disabled (Default), Enabled.

Typematic Rate (Chars/Sec)

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)

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.

PS/2 Mouse Function Control

When stay with the default, Enabled; the system will detect the PS/2 mouse and set IRQ12 service. When disabled, or no PS/2 mosue, the system will relase IRQ12.
The options are: Enabled (Default), Disabled.

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.

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.

Chipset Features Setup

```
                    ROM PCI/ISA BIOS (2A69KF09)
                      CHIPSET FEATURES SETUP
                      AWARD SOFTWARE,  INC.

 SDRAM CAS latency Time    : 3      Spread Spectrum Modulated : Disabled
 DRAM Data Integrity Mode  : Non-ECC  CPU Clock Frequency       : Default
 System BIOS Cacheable     : Enabled   CPU Warning Temperature   : 70°C/158°F
 Video RAM Cacheable       : Disabled  Shutdown System Temp.     : 80°C/176°F
 8 Bit I/O Recovery Time   : 1        Current CPU Temperature   : 29°C/84°F
 16 Bit I/O Recovery Time  : 1        Current FAN1 Speed        :
 Memory Hole At 15M-16M    : Disabled  Current FAN2 Speed        :
 Passive Release           : Enabled   Vcore A :      Vcore B :
 Delayed Transaction       : Disabled  +3.3V  :      + 5 V  :
 AGP Aperture Size (MB)    : 64       +12 V  :      -12 V   : -
                                      - 5 V  : -

                                      Shutdown Temperature      : 60°C/140°F


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

SDRAM CAS lattency Time

If any SDRAM DIMM is installed, this feature allows you to select the CAS Latency. The options are: 3 (Default), 2.

DRAM Data Integrity Mode

This feature provides software configurablity of selecting between ECC (ECC generation and checking/correction) mode or non-ECC mode of operation of the DRAM interface. The options are: Non-ECC (Default), ECC.

System BIOS Cacheable

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

Video RAM Cacheable

Selecting Enabled allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.
The options are: Enabled (Default), Disabled.

8 Bit I/O Recovery Time

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O. The options are: 1 (Default), 2, 3, 4, 5, 6, 7, 8, NA. Unit: Bus clock.

16 Bit I/O Recovery Time

This item allows you to determine the recovery time allowed for 16 bit I/O. The options are: 1 (Default), 2, 3, 4, NA. Unit: Bus clock.

Memory Hole At 15M-16M

For some special add-on cards, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16 MB. Selecting Enabled for memory hole supported, and Disabled for memory hole not supported. The options are: Enabled, Disabled (Default).

Passive Release

Set this option to Enabled to enable passive release for the Intel PIIX4E chip. The options are: Enabled (Default), Disabled.

Delayed Transaction

Set this option to Enabled to enable delayed transactions for the Intel PIIX4E chip. The options are: Enabled (Default), Disabled.

AGP Aperture Size (MB)

This option specifies the amount of system memory that can be used by the Accelerated Graphics Port (AGP).
The options are: 4, 8, 16, 32, 64 (Default), 128, 256.

Spread Spectrum Modulated

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

CPU Clock Frquency

This feature allows you to set the CPU clock frequency. The default setting, Default, will detect your CPU clock frequency automatically. The recommended CPU clock frequencies are 66 and 100MHz. The other options may effect the system perfomance. If you set a unappropriate option which leads to a booting problem, keep pressing the Insert key until the display appears will solve it.

The options are: Default (Default), 75, 83, 66, 103, 112, 133, 100MHz.

Shutdown System Temp.

When Windows 98 installed, this feature helps to shutdown the system when the system temperature is as high as the selected temperature to prevent from the overheat problem.

The options are: $80^{o}c/176^{o}F$ (Default), Disabled, $70^{o}c/158^{o}F$, $75^{o}c/167^{o}F$.

System Hardware Monitor -
(CPU Warning Temperature, Current System Temp., Current CPU Temperature, FAN1 Speed, Current FAN2 Speed, VCORE)

This feature allows end users and technicans to monitor the data provided by the LDCM fucntion of this board.

Power Management Setup

```
                    ROM PCI/ISA BIOS (2A69KF09)
                    POWER MANAGEMENT SETUP
                      AWARD SOFTWARE,  INC.

Power Management      : Disable        **  Reload Global Timer Events  **
PM Control by APM     : Yes       IRQ[3-7, 9-15], NMI    : Enabled
Video Off Method      : DPMS      Primary IDE 0          : Disabled
Video Off After       : Suspend   Primary IDE 1          : Disabled
MODEM Use IRQ         : 3         Secondary IDE 0        : Disabled
Doze Mode             : Disable   Secondary IDE 1        : Disabled
Standby Mode          : Disable   Floppy Disk            : Disabled
Suspend Mode          : Disable   Serial Port            : Enabled
HDD Power Down        : Disable   Parallel Port          : Disabled
Suspend Mode Option   : PowerOn Suspend
Throttle Duty Cycle   : 62.5%
VGA Active Monitor    : Disabled
Soft-Off by PWR-BTTN  : Delay 4 Sec.
PWRON After PWR-Fail  : Former-Sts
CPUFAN Off In Suspend : Enabled
Resume by Ring        : Enabled   Esc : Quit      ↑↓→← : Select Item
Resume by LAN         : Enabled   F1  : Help      PU/PD/+/- : Modify
Resume by Alarm       : Disabled  F5  : Old Values  (Shift)F2  : Color
                                  F6  : Load BIOS Defaults
IRQ 8 Break Suspend   : 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 Defined 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: Disabled (Default), User Defined, MIN Saving, MAX Saving.

PM Control by APM

The option No allows the BIOS to ignore the APM (Advanced Power Management) specification. Selecting Yes will allow the BIOS 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 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 Supported 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 (Default), Blank Screen.

Video Off After

This feature allows you to select under which mode to power off your monitor. The options are: Standby, Doze, N/A, Suspend (Default).

MODEM Use IRQ

This feature allows you to select the IRQ# of the system that is the same IRQ# as the modem use. The options are: NA, 3 (Default), 4, 5, 7, 9, 10, 11.

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), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

Standby Mode

When disabled, the system will not enter the Standby mode. The specified time option defines the idle time before enters Standby mode.
The options are: Disable (Default), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

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), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

HDD Power Down

Selecting Disable will turn off the hard disk drive (HDD) motor. Selecting 1 Min..15 Min allows you define the HDD idle time before the HDD enters the Power Saving Mode. The option When Suspend lets the BIOS turn the HDD motor off when system is in Suspend mode. The options 1 Min..15 Min and When Suspend 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, When Suspend.

Suspend Mode Option

When an ATX power supply installed, this feature offers an advanced way to saving more power and prompt your system performance. If you stay with the default setting, PowerOn Suspend option, the system will enter the suspend mode (monitor off, CPU off) from full-on power status by press the power button. If set at Suspend to Disk, however, the status will directly back to the working stage of the system at the moment that is off. This can be done owing to the system saves all the configurations to the hard disk first (hard disk must have sufficient space to accomondate these data), then shut off.
For using this feature, a command (see the NOTE below) is needed to be excute while boot the system. The options are: PowerOn Suspend (Default), Suspend to Disk.

! **CAUTION:**
1. If Windows 95 or DOS used, the command: *ZVHDD /c /file* is recommended. The <u>hard disk available space</u> must be larger than <u>memory space plus 4MB</u>.
2. If Windows NT or OS2 is used, *the command: ZVHDD /c /partition* is recommended*. It* creates a new partition in the hard disk. To <u>make sure that at least one partition is not used</u> is important.
3. Suspend_to_Disk feature may fail if you have improper add-on devices. For example, your PCI VGA adapter is non-VESA complaint or your sound card is not Sound Blaster compatible or does not have APM driver. It may lead to data corruption.

Please read the related README file in the CD (or floppy disk) that comes with this board for detail information before your operate this feature.

Throttle Duty Cycle

When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.

The settings are 12.5 %, 25 %, 37.5 %, 50 %, 62.5 % (Default), 75%, 87.5%.

VGA Active Monitor

Enable this feature will cause any screen update to reload the global time. The options are: Disabled (Default), Enabled.

Soft-Off by PWR-BTTN

This feature is designed for the case when you use an ATX power supply. The selection Delay 4 Sec. will allow the system shut down after 4 seconds after the power button is pressed. The selection Instant-Off will allow the system shut down immediately once the power button is pressed.

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

PWRON After PWR-Fail

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

CPUFAN Off In Suspend

Enabling this feature will allow the CPU fan stop running when the system enters Suspend mode. The options are Disabled or Enabled (Default).

Resume by Ring

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 Disabled or Enabled (Default).

Resume by LAN

When Enabled, this feature allows the system to resume normal operation if connected over LAN. The options are Disabled or Enabled (Default).

Resume by Alarm

When set at Enabled, it allows you to set the time when the system to be turned on from the system power-off status. The settings are Disabled (Default) or Enabled.

Date (of Month) Alarm

If Resume by Ring is set at Enabled , this feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: 0 (Default), 1..31.

Time (hh:mm:ss) Alarm

If Resume by Ring is set at Enabled , this feature allows you to set the time of 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.

IRQ 8 Break Suspend

You can turn On or Off monitoring of IRQ8 (the Real Time Clock) so it does not awaken the system from Suspend mode. The settings are Disabled (Default) or Enabled.

IRQ [3-7,9-15], NMI

When Enabled, an event occurring on each device uses these resources to restart the global time for Standby mode. The settings are Disabled or Enabled. The default setting is Enabled.

Primary IDE 0, Primary IDE 1, Secondary IDE 0, Secondary IDE 1, Floppy Disk, Serial Port, Parallel Port

Enable this feature will keep the system restarting the global time when the selected device is active. The settings are Disabled or Enabled.

The default setting is Disabled, except Serial Port.

PNP/PCI Configuration

```
                    ROM PCI/ISA BIOS (2A69KF09)
                       PNP/PCI CONFIGURATION
                      AWARD SOFTWARE,  INC.

  PNP OS Installed        : No      Slot 1 Use IRQ No.   :   Auto
  Resources Controlled By : Auto    Slot 2 Use IRQ No.   :   Auto
  Reset Configuration Data : Disabled Slot 3 Use IRQ No.  :   Auto
                                     Slot 4 Use IRQ No.   :   Auto

                                     PCI IRQ Activate By  :   Level
                                     Init Primary Display :     PCI
                                     Assign IRQ For VGA   :   Enabled


                                    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 one, such as 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 exists conflict, select Manual. The options are: Auto (default), Manual. The manual options of **IRQ- / DMA- assigned to** are: Legacy ISA, PCI/ISA PnP.

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).

Slot 1/2/3/4 Use IRQ No.

This feature allows you to assign the PCI IRQ numbers for PCI slots. Selecting the default, AUTO, allows the PCI controller to automatically allocate the IRQ numbers.
The options are: Auto (Default), 3, 4, 5, 7, 9, 10, 11, 12, 14, 15.

PCI IRQ Activate By

We suggest that you set this to its default configuration unless you are a qualified technician. The options are: Level (Default), Edge.

Init Primary Display

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

Assign IRQ For VGA

If your PCI VGA card does not need an IRQ, select Disabled to release an IRQ for system use. The options are: Enabled (Default), Disabled.

Integrated Peripherals

```
                 ROM PCI/ISA BIOS (2A69KF09)
                    INTEGRATED PERIPHERALS
                     AWARD SOFTWARE,  INC.

 IDE HDD Block Mode        : Enabled    POWER ON Function    : BUTTON ONLY
 On-Chip Primary    PCI IDE : Enabled
 On-Chip Secondary  PCI IDE : Enabled
 IDE Primary Master PIO     : Auto      KBC input clock       :  8  MHz
 IDE Primary Slave PIO      : Auto      Onboard FDC Controller :  Enabled
 IDE Secondary Master PIO   : Auto      Onboard Serial Port 1  :  3F8/IRQ4
 IDE Secondary Slave PIO    : Auto      Onboard Serial Port 2  :  2F8/IRQ3
 IDE Primary Master UDMA    : Auto      UART Mode Select       :  Normal
 IDE Primary Slave UDMA     : Auto
 IDE Secondary Master UDMA  : Auto      Onboard Parallel Port  :  378/IRQ7
 IDE Secondary Slave UDMA   : Auto      Parallel Port Mode     :  SPP
 HDD S.M.A.R.T. Capability  : Disabled  Esc : Quit    ↑↓→← : Select Item
                                        F1  : Help         PU/PD/+/- : Modify
 USB Controller             : Disabled  F5  : Old Values   (Shift)F2  : Color
                                        F6  : Load BIOS Defaults
                                        F7  : Load Setup Defaults
```

IDE HDD Block Mode

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

On-Chip Primary PCI IDE

When enabled, allows you to use the onboard primary PCI IDE.
The options are: Enabled (Default), Disabled.

On-Chip Secondary PCI IDE

When enabled, allows you to use the onboard secondary PCI IDE.
The options are: Enabled (Default), Disabled.

IDE Primary Master PIO

Allows an automatic or a 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.

IDE Primary Slave PIO

Allows an automatic or a 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.

IDE Secondary Master PIO

Allows an automatic or a 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.

IDE Secondary Slave PIO

Allows an automatic or a 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.

IDE 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), Disabled.

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), Disabled.

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), Disabled.

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), Disabled.

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

.M.A.R.T" is the abbrevation of   elf-Mointoring, Analysis and Reproting Technology". To enable it will assist you in preventing some (but not all) system down time due to hard disk drive failure.
The options are: Enabled, Disabled (Default).

USB Controller

If you do not use the onboard USB feature, it allows you to disable it.
The options are: Enabled, Disabled (Default).

BIOS Support USB Keyboard

If Enabled is selected in the above feature, this feature will appear.
If your USB devices cannot be detect automatically by the system BIOS or some driver diskettes came with your USB devices, please set at DOS for allowing you to install the driver.
The options are: Setup (Default), DOS.

POWER ON Function

This feature provides you with several ways to power on the system; they are: BUTTON ONLY (press the power button), Password (enter a password to power on the system), Mouse Right (click the mouse right button), Mouse Left (click the mouse left button), Hot Key (press the selected hot key). To use this feature, you have to set the jumper KB_PWN in Chapter 2 at Enable. The options are: BUTTON ONLY (Default), Password, Mouse Right, Mouse Left, Hot Key.

KB Power On Password

When set the POWER ON Function at Password, this feature will appears on the monitor. It allows you to set a password to power the system. Press the Enter key when you are prompted to set the power-on password. Type it up to five characters and press the Enter key; then confirm it by typing the password again and pressing the Enter key to complete the setting procedures. To disable the power-on password, press the Enter key when it is disabled. When the power-on password is set, the system can not be powered on by the power button, mouse, or hot key. Once the power-on password is set, you can power on the system simply by entering the password. This feature offers the security on your computer system.

Hot Key Power ON

When set POWER ON Function at Hot Key, this feature will appears on the monitor. It allows you to select a hot key to power on your computer.
The options are: Ctrl-F1 (Default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F2, Ctrl-F11, Ctrl-F12.

KBC input clock

This feature allows you to select different KBC input clocks which your keyboard actually supported. Please read your keyboard manual also for more information. The options are: 6, 8 (Default), 12, 16 MHz.

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: 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: 2F8/IRQ3 (Default), 3E8/IRQ4, 2E8/IRQ3, 3F8/IRQ4, Disabled.

UART Mode Select

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set at Normal, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: Normal (Default), IrDA, ASKIR.

RxD , TxD Active

The feature allows you to select the active signals of the reception end and the transmission end. This is for technician use only.
The options are: Hi, Hi (Default); Hi, Lo; Lo, Hi; Lo, Lo.

IR Transmission Delay

When Enabled, the transmission delays 4 characters-time (40 bit-time) if SIR is changed from RX mode to TX mode. When Disabled, no transmission delay if SIR is changed from RX mode to TX mode.
The options are: Enabled (Default), Disabled.

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: SPP (Default), EPP, ECP, ECP+EPP.

EPP Mode Select

If your select EPP or ECP+EPP in Parallel Port Mode, this feature allows you to select the EPP type version.
The options are: EPP1.9, EPP1.7 (Default).

ECP Mode Use DMA

If your select ECP or ECP+EPP in Parallel Port Mode, this feature allows you to select Direct Memory Access (DMA) channel.
The options are: 3 (Default), 1.

This Page Left Blank for Note