## Chapter 1

# INTRODUCTION

The MS-6340M (V3.X) Micro-ATX VA mainboard is a high-performance computer mainboard based on VIA® KM133A chipset. The MS-6340M is designed for the AMD® Socket processor for inexpensive business/personal desktop markets.

The KM133A chipset consists of the VT8365A system controller (552 pin BGA) and the VT82C686B PCI to ISA bridge (352 pin BGA). The system controller provides superior performance between the CPU, DRAM, AGP bus, and PCI bus with pipelined burst, and concurrent operation.

The VT82C686B integrates all system control functions such as ACPI (Advances Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The VT82C686B chipset also improves the IDE transfer rate by supporting Ultra DMA-33/66/100 IDE that transfers data at the rate 33/66/100MB/sec.

This mainboard which supports KM133A chipset coupled with VT8365A and VT82C686B is ideal for high performance, high quality, high energy efficient and high integration desktop AGP/PCI/ISA computer systems.

## 1.1 Mainboard Features

**CPU**
- Socket A for AMD® PGA Duron/Athlon processor.
- Support 550~1.4GHz or higher processor.

**Chipset**
- VIA® KM133A VT8365A chipset. (552 BGA)
  - FSB @200MHz/266MHz
  - AGP 4x and PCI Advanced high performance memory controller
  - Support PC100/133 SDRAM, & VCM technology
- VIA® VT82C686B chipset. (352 BGA)
  - Enhanced Power Management Features
  - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
  - Dual bus Master IDE Ultra DMA33/66/100
  - Integrated Hardware Sound Blaster
  - Direct Sound AC97 Audio
  - ACPI
  - Support 4 USB Ports

**Clock Generator**
- 100MHz/133MHz clocks are supported. (200MHz/266MHz Internal System Bus)

**Main Memory**
- Support four memory banks using two 168-pin unbuffered DIMM.
- Support a maximum memory size of 1GB (32M x 8).
- Support 3.3v SDRAM DIMM.

**Slots**
- One AGP(Accelerated Graphics Port) slot.
  - AGP specification compliant
  - Support AGP 2.0 1x/2x/4x
- One CNR(Communication Network Riser) slot.
- Three 32-bit Master PCI Bus slots.
- Supports 3.3v/5v PCI bus Interface.

**On-Board IDE**
- An IDE controller on the VIA® VT82C686B Chipset provides IDE HDD/ CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes.
- Can connect up to four IDE devices.

**On-Board Peripherals**
- On-Board Peripherals include:
    - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
    - 2 serial ports (COMA + COM B) or 1 serial port with 1 VGA port.
    - 1 parallel port supports SPP/EPP/ECP mode
    - 4 USB ports (2 Rear Connectors/USB Front Pin Header)
    - 1 IrDA connector for SIR/CIR/FIR/ASKIR/HPSIR.
    - 1 Audio/Game port

**Audio**
- Chip Integrated
    - Direct Sound AC97 Audio.
- Creative® CT5880 (Optional)
    - PCI 2.2 compliant.
    - 3D audio effects.
    - 32-voice XG wave table synthesizer.
    - Direct Sound/Music Hardware Accelerator.
    - Full-Duplex stereo.

**BIOS**
- The mainboard BIOS provides "Plug & Play" BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface(DMI) function which records your mainboard specifications.
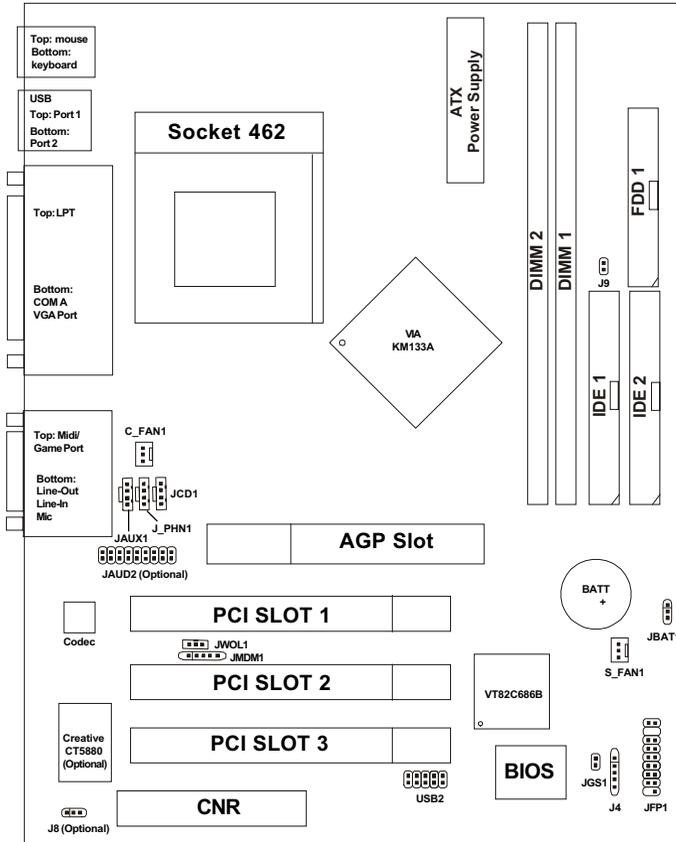
**Dimension**
- Micro ATX Form Factor: 20.8cm x 24.3cm.

**Mounting**
- 6 mounting holes.

## 1.2 Mainboard Layout

| | |
|---|---|
| Top: mouse Bottom: keyboard | |
| USB Top: Port 1 Bottom: Port 2 | |
| Top: LPT Bottom: COM A VGA Port | Socket 462 |

ATX Power Supply

DIMM 2  DIMM 1

FDD 1

J9

VIA KM133A

IDE 1  IDE 2

Top: Midi/ Game Port
Bottom: Line-Out Line-In Mic

C_FAN1

JCD1

J_PHN1

JAUX1

JAUD2 (Optional)

AGP Slot

BATT +

JBAT1

Codec

PCI SLOT 1

JWOL1
JMDM1

S_FAN1

PCI SLOT 2

VT82C686B

Creative CT5880 (Optional)

PCI SLOT 3

BIOS

JGS1

J4  JFP1

USB2

J8 (Optional)

CNR

## MS-6340M (V3.X) Micro-ATX VA Mainboard

## Chapter 2

## HARDWARE INSTALLATION

## 2.1  Central Processing Unit: CPU

The mainboard operates with **AMD® Duron™/Athlon processor.**  The mainboard uses a CPU socket called Socket 462 for easy CPU installation. The CPU should always have a Heat Sink and a cooling fan attached to prevent overheating.

### 2.1-1 CPU Installation Procedures

1. Pull the lever sideways away from the socket.  Then, raise the lever up to a 90-degree angle.


Open Lever
Sliding Plate

2. Align the pins on the CPU with the pin positions on the socket carefully and place the CPU on it.  The cut edge of the CPU will be next to the lever pivot.


Cut edge

3. Hold the CPU firmly, and then press the lever down to complete the installation.


Close Lever
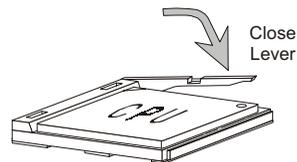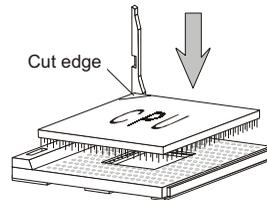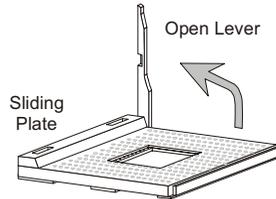
## 2.1-2 CPU Core Speed Derivation Procedure

The mainboard CPU Bus Frequency can be set through BIOS setup.

|  |  |  |
|---|---|---|
| **If** | <u>CPU Clock</u> | = 100MHz |
|  | <u>Core/Bus ratio</u> | = 7 |
| **then** | <u>CPU core speed</u> | = <u>Host Clock</u> x <u>Core/Bus ratio</u> |
|  |  | = 700MHz |

## 2.1-3 Fan Power Connectors:  C_FAN1/S_FAN1

These connectors support system cooling fan with + 12V.  It supports three pin head connector.   When connecting  the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND.  If your mainboard has System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of this function.
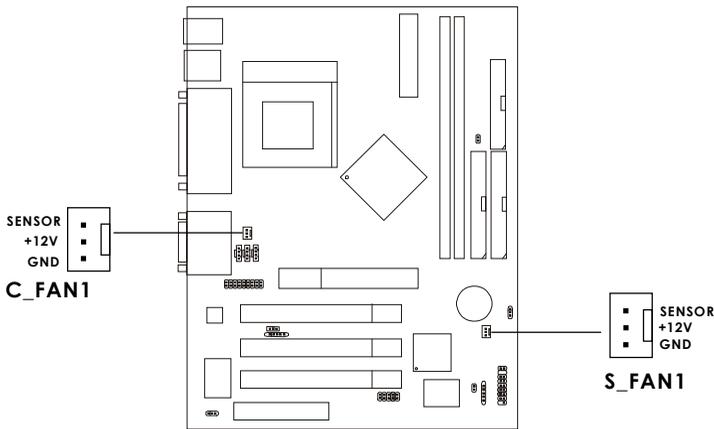


**C_FAN1**:  Processor Fan
**S_FAN1**:  System Fan

For fans with fan speed sensor, every rotation of the fan will send out 2 pulses.  System Hardware Monitor will count and report the fan rotation speed.

**Note:**   **1.** Always consult vendor for proper CPU cooling fan.
            **2.** CPU FAN supports the FAN control. You can install PC Alert utility. This will automatically control the CPU FAN Speed according to the actual CPU temperature.

## 2.2 Clear CMOS Jumper: JBAT1

A battery must be used to retain the mainboard configuration in CMOS RAM. Short 1-2 pins of JBAT1 to store the CMOS data.



**JBAT1**
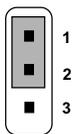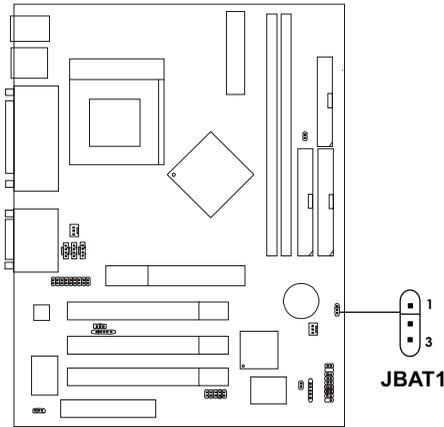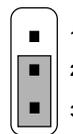


**Keep Data**                              **Clear Data**

**Note:** You can clear CMOS by shorting 2-3 pin, while the system is off. Then, return to 1-2 pin position. Avoid clearing the CMOS while the system is on, it will damage the mainboard. Always unplug the power cord from the wall socket.

## 2.3 Memory Installation

### 2.3-1  Memory Bank Configuration

The mainboard supports a maximum memory size of 1 GB.  It  provides two 168-pin **unbuffered** DIMMs (Double In-Line Memory Module) sockets.  It supports 8 MB to 512 Mbytes DIMM memory module.
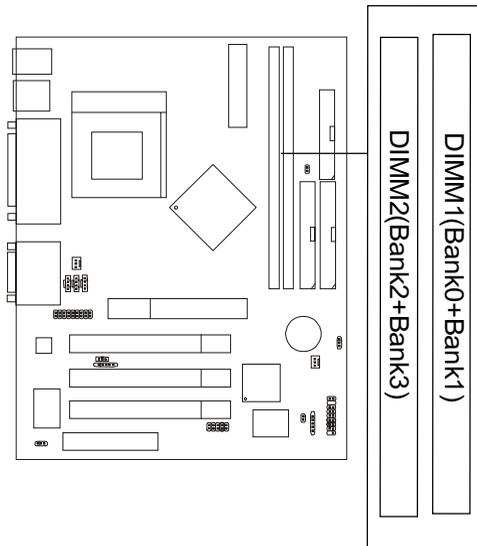


| ⚠ !  **WARNING!** | There are two kinds of DIMM specification supported by this mainboard:  PC133 and PC100.  If you use 100MHz CPU Bus Frequency, you can use PC100 or PC133 DIMM Spec.  If you use 133 MHz CPU Bus Frequency, only PC133 DIMM Spec is recommended. |
|---|---|

## 2.3-2  Memory Installation Procedures

### A.  How to install a DIMM Module
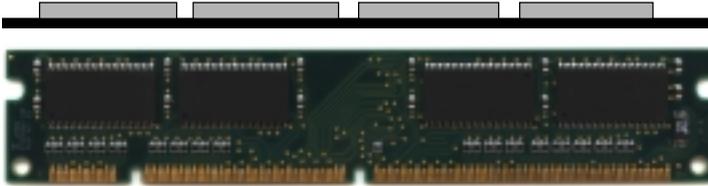


**Single Sided DIMM**
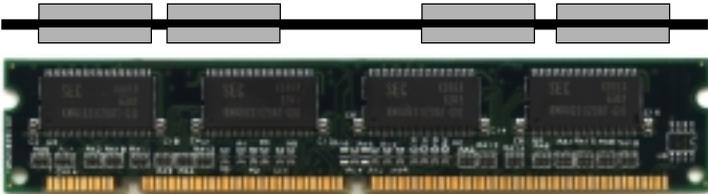


**Double Sided DIMM**

1.  The DIMM slot has 2 Notch Keys "VOLT and DRAM", so the
    DIMM memory module can only fit in one direction.

2.  Insert the DIMM memory module vertically into the DIMM slot.
    Then push  it in.
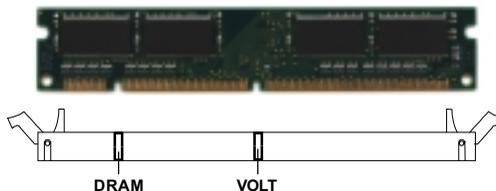


3.  The plastic clip at the side of the DIMM slot will automatically
    close.

### 2.3-3  Memory Population Rules

1. Supports only SDRAM DIMM.

2. To operate properly, at least  one 168-pin DIMM module must be installed.

3. This mainboard supports Table Free memory, so memory can be installed on DIMM 1 or DIMM 2 in any order.

4. Supports 3.3 volt DIMM.

5.  The DRAM addressing and the size supported by the mainboard is shown below:

**Table 2.3-1  SDRAM Memory Addressing**

| DRAM Tech. | DRAM Density & Width | DRAM Addressing | Address Size | | MB/DIMM | |
|---|---|---|---|---|---|---|
| | | | Row | Column | Single no. Side(S) pcs. | Double no. Side(D) pcs. |
| 16M | 1Mx16 | ASYM | 11 | 8 | 8MBx4 | 16MBx8 |
| | 2Mx8 | ASYM | 11 | 9 | 16MBx8 | 32MBx16 |
| | 4Mx4 | ASYM | 11 | 10 | 32MB | 64MB |
| 64M | 2Mx32 | ASYM | 11 | 9 | 32MBx2 | 64MBx4 |
| | 2Mx32 | ASYM | 12 | 8 | 16MBx2 | 32MBx4 |
| | 4Mx16 | ASYM | 11 | 10 | 32MB | 64MB |
| | 4Mx16 | ASYM | 13 | 8 | 32MB | 64MB |
| | 8Mx8 | ASYM | 13 | 9 | 64MB | 128MB |
| | 16Mx4 | ASYM | 13 | 10 | 128MB | 256MB |
| 64M | 2Mx32 | ASYM | 12 | 8 | 16MB | 32MB |
| | 4Mx16 | ASYM | 13 | 8 | 32MB | 64MB |
| | 8Mx8 | ASYM | 13 | 9 | 64MB | 128MB |
| | 16Mx4 | ASYM | 13 | 10 | 128MB | 256MB |
| 256M | 32Mx8 | ASYM | 14 | 9 | 256MB | 512MB |

## 2.4 Case Connector:  JFP1

The Keylock (reserved), Power Switch, Reset Switch,  Power LED,  Speaker, and HDD LED are all connected to the JFP1 connector block.
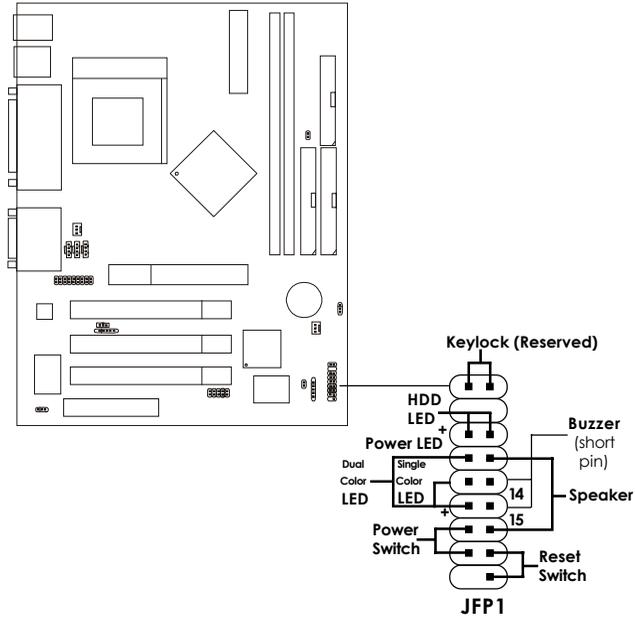
### 2.4-1 Power Switch
Connect to a 2-pin push button switch.

### 2.4-2 Reset Switch
Reset switch is used to reboot the system rather than turning the power ON/ OFF.  Avoid rebooting while the HDD LED is lit.  You can connect the Reset switch from the system case to this pin.

### 2.4-3 Power LED
The Power LED is lit while the system power is on.  Connect the Power LED from the system case to this pin.  There are two types of LED that you can use: 2-pin single color LED or 3-pin dual color LED (ACPI request).

      **a.** 2 pin single color LED connect to pin 5 & 6.  This LED will light when the system is on.

      **b.** 2 pin dual color LED connect to pin 4, 5 & 6.

            **GREEN**Color:      Indicate the system is in full on mode.

            **ORANGE**Color:      Indicate the system is in suspend mode.

### 2.4-4 Speaker
Speaker from the system case is connected to this pin.

### 2.4-5 HDD LED
HDD LED shows the activity of a hard disk drive.  Avoid turning the power off while the HDD led is lit.  You can connect the HDD LED from the system case to this pin.

## 2.5  Floppy Disk Connector:  FDD1

The mainboard also provides a standard floppy disk connector FDD1 which supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types.  This connector supports the provided floppy drive ribbon cables.
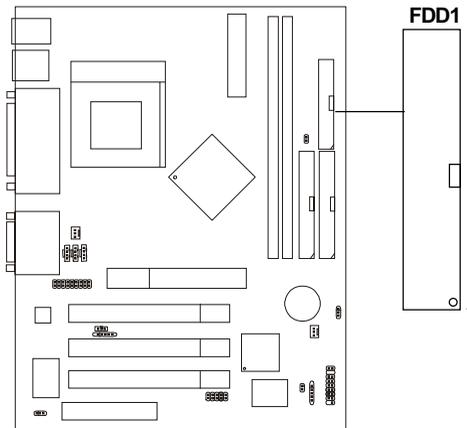
## 2.6 Hard Disk Connectors: IDE1 & IDE2

The mainboard has a 32-bit Enhanced PCI IDE and Ultra DMA/66 Controller that provides PIO mode 0~4, Bus Master, and Ultra DMA/33/66 function. It has two HDD connectors IDE1 (primary) and IDE2 (secondary). You can connect up to four hard disk drives, CD-ROM, 120MB Floppy (reserved for future BIOS) and other devices to IDE1 and IDE2. These connectors support the provided IDE hard disk cable.
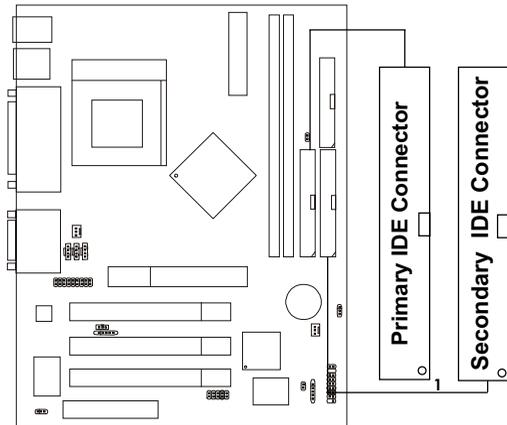


**IDE1** (Primary IDE Connector)

The first hard drive should always be connected to IDE1. IDE1 can connect a Master and a Slave drive. You must configure second hard drive to Slave mode by setting the jumper accordingly.

**IDE2** (Secondary IDE Connector)

IDE2 can also connect a Master and a Slave drive.

# 2.7 Power Supply

### 2.7-1  ATX 20-pin Power Connector:  JWR1

This connector supports the power button on-board.  Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported by this mainboard.  This power connector supports instant power on function which means that system will boot up instantly when the power connector is inserted on the board.



**ATX Power Connector**
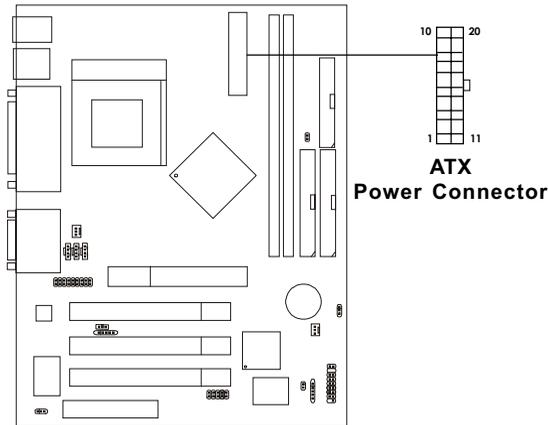
**PIN DEFINITION**

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1   | 3.3V   | 11  | 3.3V   |
| 2   | 3.3V   | 12  | -12V   |
| 3   | GND    | 13  | GND    |
| 4   | 5V     | 14  | PS_ON  |
| 5   | GND    | 15  | GND    |
| 6   | 5V     | 16  | GND    |
| 7   | GND    | 17  | GND    |
| 8   | PW_OK  | 18  | -5V    |
| 9   | 5V_SB  | 19  | 5V     |
| 10  | 12V    | 20  | 5V     |

**Warning:** Since the mainboard has the instant power on function, make sure that all components are installed properly before inserting the power connector to ensure that no damage will be done.

## 2.8  IrDA Infrared Module Connector:  J4

The mainboard provides one infrared (J4) connector for IR modules.  This connector is for optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.



J4
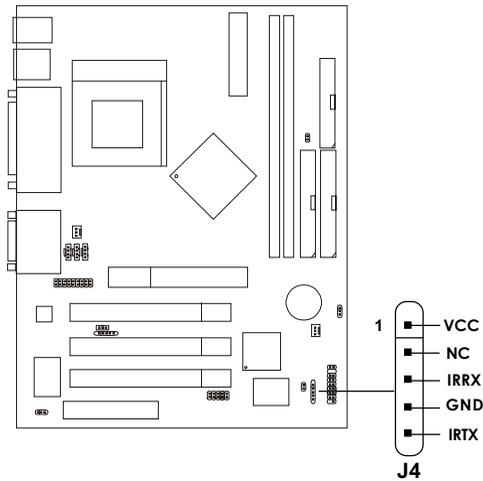
## 2.9 Power Saving Switch Connector: JGS1

Attach a power saving switch to **JGS1**.  When the switch is pressed the system immediately goes into suspend mode.  Press any key and the system wakes up.



JGS1
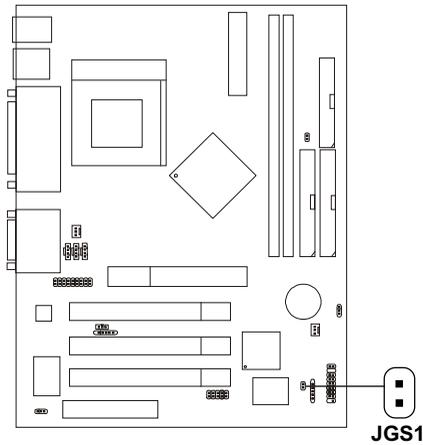
# 2.10  Serial Port Connector:  COM A

The mainboard provides one 9-pin male DIN connector for serial port COM A.  The port is 16550A high speed communication port that send/receive 16 bytes FIFOs.  You can attach a mouse or a modem cable directly into this connector.
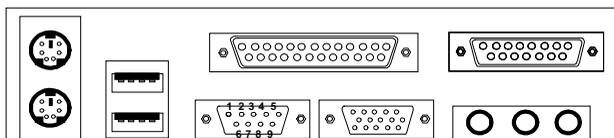


**COM A**

## Serial Port (9-pin Male)

### PIN  DEFINITION

| PIN | SIGNAL |
|:---:|:---|
| 1 | **DCD**(Data Carry Detect) |
| 2 | **SIN**(Serial In or Receive Data) |
| 3 | **SOUT**(Serial Out or Transmit Data) |
| 4 | **DTR**(Data Terminal Ready) |
| 5 | **GND** |
| 6 | **DSR**(Data Set Ready) |
| 7 | **RTS**(Request To Send) |
| 8 | **CTS**(Clear To Send) |
| 9 | **RI**(Ring Indicate) |

## 2.11  Parallel Port Connector: LPT1

The mainboard provides a 25 pin female centronic connector for LPT.  A parallel port is a standard printer port that also supports Enhanced Parallel Port (EPP) and Extended capabilities Parallel Port (ECP).  See connector and pin definition below:

### Parallel Port (25-pin Female)

### LPT 1
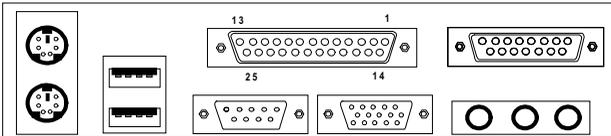


**PIN  DEFINITION**

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1 | STROBE | 14 | AUTO FEED# |
| 2 | DATA0 | 15 | ERR# |
| 3 | DATA1 | 16 | INIT# |
| 4 | DATA2 | 17 | SLIN# |
| 5 | DATA3 | 18 | GND |
| 6 | DATA4 | 19 | GND |
| 7 | DATA5 | 20 | GND |
| 8 | DATA6 | 21 | GND |
| 9 | DATA7 | 22 | GND |
| 10 | ACK# | 23 | GND |
| 11 | BUSY | 24 | GND |
| 12 | PE | 25 | GND |
| 13 | SELECT |  |  |

## 2.12  Mouse Connector:  JKBMS1

The mainboard provides a standard PS/2® mouse mini DIN connector for attaching a PS/2®  mouse.  You can plug a PS/2® mouse directly into this connector.  The connector location and pin definition are shown below:
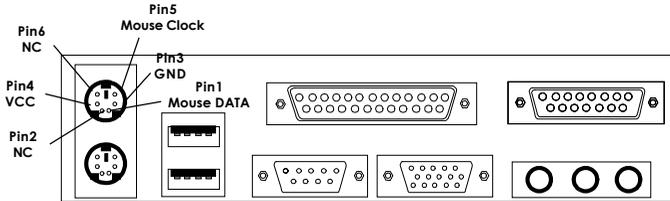


**PS/2 Mouse (6-pin Female)**

## 2.13  Keyboard Connector:  JKBMS1

The mainboard provides a standard PS/2® keyboard mini DIN connector for attaching a keyboard.  You can plug a keyboard cable directly to this connector.
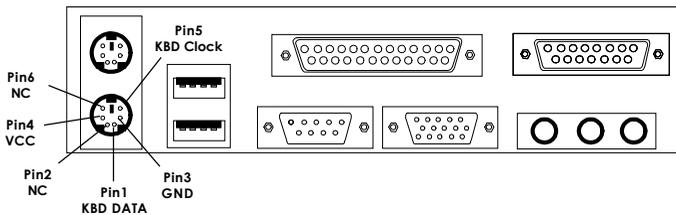


**PS/2 Keyboard (6-pin Female)**

## 2.14 Joystick/Midi Connectors

You can connect joystick or game pad to this connector.

**Joystick/MIDI**
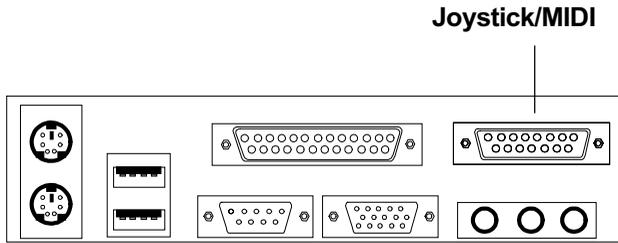
## 2.15 Audio Port Connectors

**Line Out** is a connector for Speakers or Headphones. **Line In** is used for external CD player, Tape layer, or other audio devices. **Mic** is a connector for the microphones.

Line Out    Line In    Mic
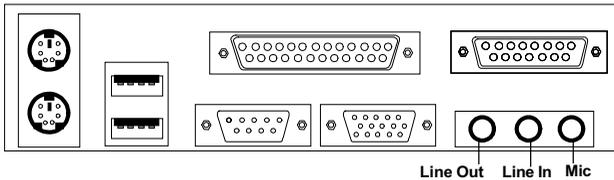
**1/8" Stereo Audio Connectors**

## 2.16  USB Connectors

The mainboard provides a **UHCI(Universal Host Controller Interface) Universal Serial Bus root** for attaching USB devices like: keyboard, mouse and other USB devices. You can plug the USB device directly to this connector.
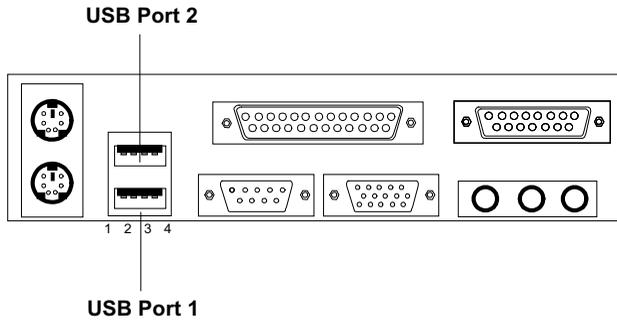


| PIN | SIGNAL |
|-----|--------|
| 1 | VCC |
| 2 | -Data |
| 3 | +Data |
| 4 | GND |

## 2.17 VGA DB 15 Pin Connector

The mainboard provides a DB 15-pin connector to connect to a VGA monitor.



**VGA**
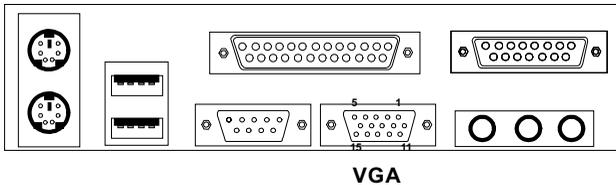
| Analog Video Display Connector(DB15-S) | |
|:---:|:---:|
| **Pin** | **Signal Description** |
| 1 | Red |
| 2 | Green |
| 3 | Blue |
| 4 | Not used |
| 5 | Ground |
| 6 | Ground |
| 7 | Ground |
| 8 | Ground |
| 9 | Not used |
| 10 | Ground |
| 11 | Not used |
| 12 | SDA |
| 13 | Horizontal Sync |
| 14 | Vertical Sync |
| 15 | SCL |

## 2.18  Wake-Up on LAN Connector: JWOL1

The JWOL1 connector is for use with LAN add-on cards that supports
Wake Up on LAN function.  To use this function, you need to set the "Wake
Up on LAN/Ring" to enable at the BIOS Power Management Setup.
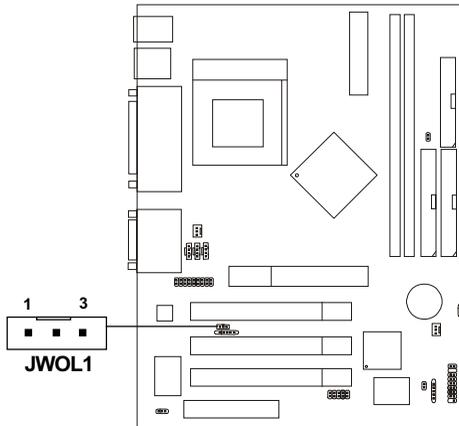


| PIN | SIGNAL |
|-----|-----------|
| 1   | 5VSB |
| 2   | GND |
| 3   | MP_WAKEUP |

**Note:**  LAN wake-up signal is active "high".

**Note:**     To be able to use this function, you need a power supply that
provide enough power for this feature. (Power supply with 750mA
5V Stand-by)

## 2.19  Modem Wake Up Connector: JMDM1

The JMDM1 connector is for used with Modem add-on card that supports the Modem Wake Up  function.  To use this function, you need to set the "Wake Up on LAN/Ring" to enable at the BIOS Power Management Setup.
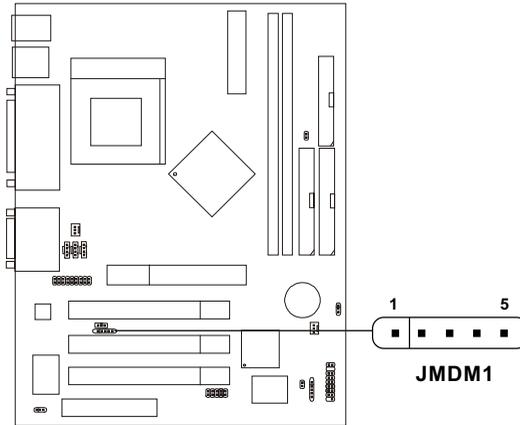


| PIN | SIGNAL |
|-----|--------|
| 1 | NC |
| 2 | GND |
| 3 | MDM_WAKEUP |
| 4 | NC |
| 5 | 5VSB |

**Note:**  Modem wake-up signal is active "low".

**Note:**    To be able to use this function, you need a power supply that provide enough power for this feature. (Power supply with 750mA 5V Stand-by)

## 2.20 USB Front Connector: USB2

The mainboard provides a **front Universal Serial Bus connector**. This is an optional USB connector for Front Panel.
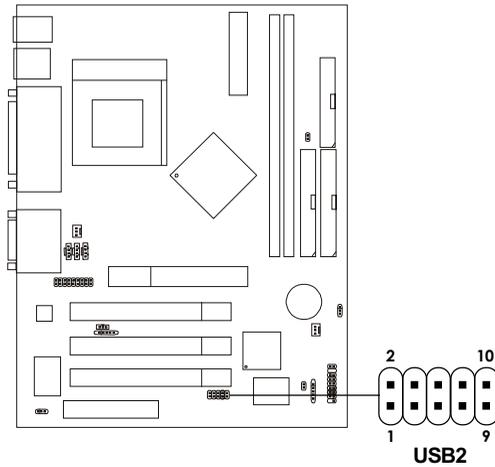


| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | VCC | 6 | USBD2+ |
| 2 | GND | 7 | GND |
| 3 | USBD3- | 8 | USBD2- |
| 4 | GND | 9 | GND |
| 5 | USBD3+ | 10 | VCC |

## 2.21 CD-In Connector: JCD1

This connector is for CD-ROM audio connector.
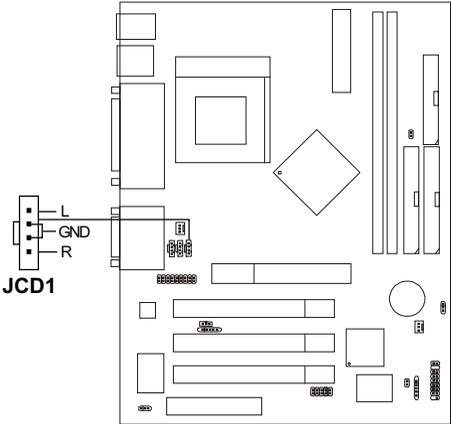
## 2.22  AUX Line In Connector:  JAUX1

This connector is used for DVD Add on Card with Line In connector.
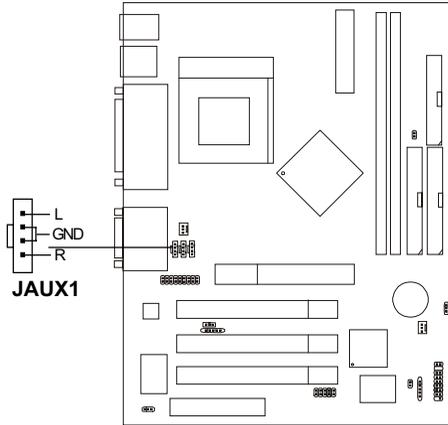
## 2.23 Modem-In: J_PHN1

The connector is for Modem with internal voice connector.
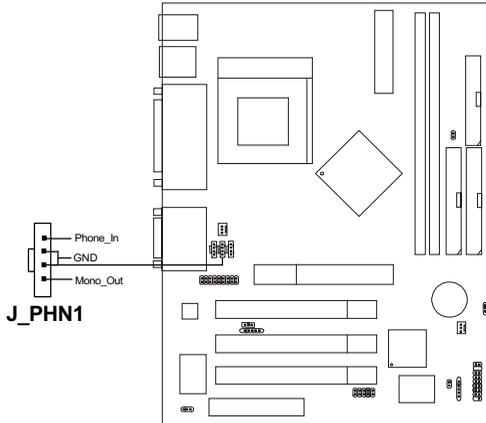


Mono_Out is connected to the Modem Speaker Out connector.
Phone_In is connected to the Modem Microphone In connector.

## 2.24 CNR (Communication Network Riser)

The Communication Network Riser specification is an open industry-standard specification that defines a hardware scalable Original Equipment Manufacturer (OEM) mainboard riser board and interface, **which supports audio and modem only**.

**CNR**
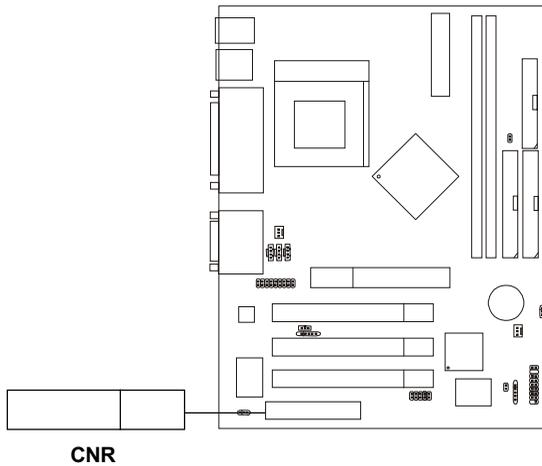
## 2.25  Front Panel Audio Connector: JAUD2 (Optional)

You can connect an optional audio connector to the Front Panel Audio Header.



**JAUD2**
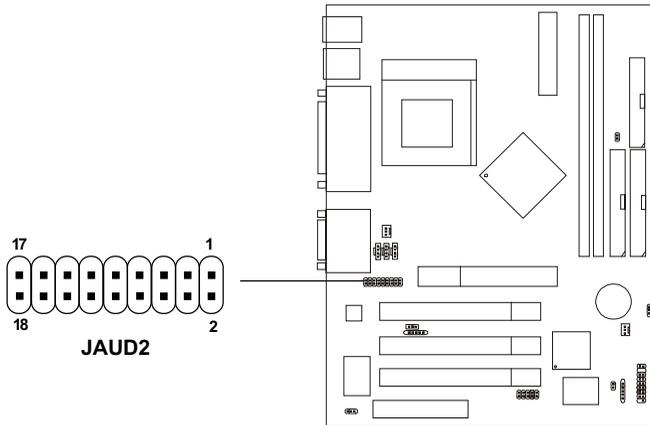
| PIN | Description | PIN | Description |
|-----|-------------|-----|-------------|
| 1 | Active Line Out (R) | 2 | Active Line Out (L) |
| 3 | GND (ALO) | 4 | GND (ALO) |
| 5 | GND (+12) | 6 | GND (+12) |
| 7 | +12V (1A) | 8 | (Cut) |
| 9 | MIC | 10 | GND (MIC) |
| 11 | Front Line Out (R) | 12 | Line Next (R) |
| 13 | Front Line Out (L) | 14 | Line Next (L) |
| 15 | GND (FLO) | 16 | (Cut) |
| 17 | Line In (R) | 18 | Line In (L) |

## 2.26 Onboard Soft Audio Jumper: J8 (Optional)

This jumper is used to enable/disable onboard software audio or enble CNR slot.



**J8**

**By CNR Card**

**Disable Onboard Software Audio**
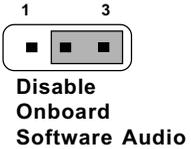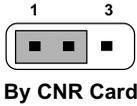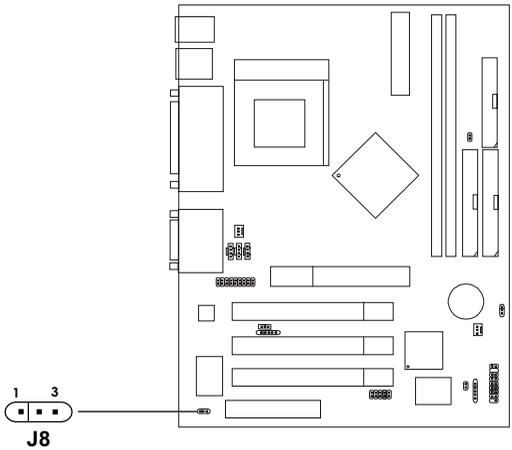
## 2.27  CPU FSB Frequency Jumper: J9

This jumper is used to specify the CPU FSB (Front Side Bus) frequency.

**J9**
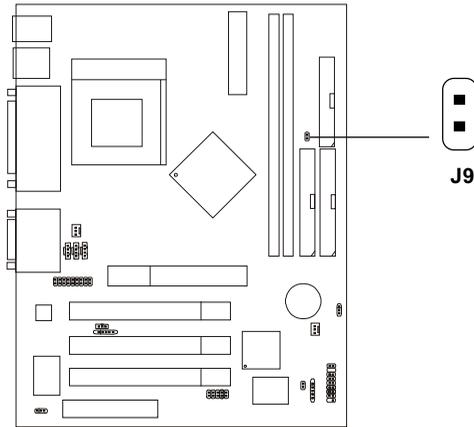
**FSB= 133MHz**          **FSB= 100MHz**

## Chapter 3

# AWARD® BIOS SETUP

Award® BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration.  This type of information is stored in battery-backed RAM (CMOS RAM), so that it retains the Setup information when the power is turned off.

## 3.1 Entering Setup

Power on the computer and press <Del> immediately to allow you to enter Setup.  The other way to enter Setup is to power on the computer. When the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT, PRESS <CTRL-ALT-ESC> OR <DEL> KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case.  You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.  If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

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

## 3.2 Getting Help

**Main Menu**

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

**Status Page Setup Menu/Option Page Setup Menu**

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

## 3.3 The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen.  The Main Menu allows you to select from eleven setup functions and two exit choices.  Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

<div align="center">CMOS Setup Utility - Copyright(C) 1984-2000</div>

```
┌─────────────────────────────────┬─────────────────────────────┐
│ ▸STANDARD CMOS Features          │ Load Fail-Safe Defaults      │
│ ▸Advanced BIOS Features          │ Load Optimized Defaults      │
│ ▸Advanced Chipset Features       │ Set Supervisor Password      │
│ ▸Integrated Peripherals          │ Set User Password            │
│ ▸Power Management Setup          │ Save & Exit Setup            │
│ ▸PnP/PCI Configurations          │ Exit Without Saving          │
│ ▸Frequency/Voltage Control       │                             │
├─────────────────────────────────┴─────────────────────────────┤
│ Esc : Quit                  ↑↓→←    : Select Item              │
│ F10 : Save & Exit Setup                                        │
├────────────────────────────────────────────────────────────────┤
│              Time, Date, Hard Disk Type...                     │
│                                                                │
└────────────────────────────────────────────────────────────────┘
```

**Standard CMOS Setup**
       Use this Menu for basic system configurations.

**Advanced BIOS Features**
       Use this menu to set the Advanced Features available on your system.

### Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

### Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

### Power Management Setup

Use this menu to specify your settings for power management.

### PnP/PCI Configuration

This entry appears if your system supports PnP/PCI.

### Frequency/Voltage

Use this menu to specify your settings for frequency/voltage control.

### Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

### Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

### Supervisor/User Password

Use this menu to set User and Supervisor Passwords.

### Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

### Exit Without Saving

Abandon all CMOS value changes and exit setup.

# 3.4 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories.  Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Standard CMOS Setup

```
Date(mm:dd:yy):          Fri,May 5,2000
Time(hh:mm:ss):          00:00:00                    Item Help


IDE Primary Master       Press Enter27326MB     Menu Level  >
IDE Primary Slave        Press Enter None
IDE Secondary Master     Press Enter None
IDE Secondary Slave      Press Enter None


Drive A                  1.44M, 3.5in.
Drive B                  None


Video                    EGA/VGA
Halt On                  All, But Keyboard


Based Memory                640K
Extended Memory           64512K
Total Memory               1024K


↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults
```

**Date**

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

| | |
|---|---|
| **Day** | Day of the week, from Sun to Sat, determined by BIOS.  Read-only. |
| **Month** | The month from Jan. through Dec. |
| **Date** | The date from 1 to 31 can be keyed by numeric function keys. |
| **Year** | The year, depends on the year of the BIOS |

**Time**

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

**PrimaryMaster/PrimarySlave**
**SecondaryMaster/Secondary Slave**

Press PgUp/<+> or PgDn/<-> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.  If your hard disk drive type is not matched or listed, you can use Manual to define your own drive type manually.

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

If the controller of HDD interface is SCSI, the selection shall be
"None".
If the controller of HDD interface is CD-ROM, the selection shall be
"None".

| | |
|---|---|
| **Access Mode** | The settings are Auto, Normal, Large,LBA. |
| **Cylinder** | number of cylinders |
| **Head** | number of heads |
| **Precomp** | write precom |
| **Landing Zone** | landing zone |
| **Sector** | number of sectors |

# 3.5 Advanced BIOS Features

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced BIOS Features

```
┌─────────────────────────────────────────────┬──────────────────────┐
│  Anti-Virus Protection         Disabled      │                      │
│  CPU Internal Cache            Enabled       │      Item Help       │
│  External Cache                Enabled       │                      │
│  CPU L2 Cache ECC Checking     Enabled       ├──────────────────────┤
│  Quick Power On Self Test      Disabled      │ Menu Level  >        │
│  First Boot device             Floppy        │                      │
│  Second Boot device            HDD-0         │                      │
│  Third Boot device             LS120         │                      │
│  Boot other device            Enabled        │                      │
│  Swap Floppy Drive            Disabled       │                      │
│  Boot Up Floppy Seek          Enabled        │                      │
│  Boot Up Numlock Status       On             │                      │
│  Gate A20 Option              Normal         │                      │
│  Typematic Rate Setting       Disabled       │                      │
│x Typematic Rate (Chars/Sec)   6             │                      │
│x Typematic Delay (Msec)       250           │                      │
│  Security Option              Setup          │                      │
│  OS Select for DRAM > 64MB    Non-OS2        │                      │
│  Video BIOS Shadow            Enabled        │                      │
│  C8000-CBFFF Shadow           Disabled       │                      │
│  CC000-CFFFF Shadow           Disabled       │                      │
│  D0000-D3FFF Shadow           Disabled       │                      │
│  D4000-D7FFF Shadow           Disabled       │                      │
│  D8000-DBFFF Shadow           Disabled       │                      │
│  DC000-DFFFF Shadow           Disabled       │                      │
├─────────────────────────────────────────────┴──────────────────────┤
│↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults     │
└─────────────────────────────────────────────────────────────────────┘
```

### Anti-Virus Protection

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write date into this area, BIOS will show a warning message on screen and alarm beep.

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

## CPU Internal Cache

The default value is Enabled.

**Enabled** (default)     Enable cache
**Disabled**                Disable cache

**Note:** The internal cache is built in the processor.

## External Cache

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

## CPU L2 Cache ECC Checking

Choose Enabled or Disabled.  This option enables the level 2 cache memory ECC(error check correction).

## Quick Power On Self Test

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

**Enabled**                Enable quick POST
**Disabled** (default)    Normal POST

## First/Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.  The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, LAN, and Disabled.

## Swap Floppy Drive

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

## Boot Up Floppy Seek

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

## Boot Up NumLock Status

The default value is On.
**On** (default)   Keypad is numeric keys.
**Off**              Keypad is arrow keys.

## Gate A20 Option

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

## Typematic Rate Setting

Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are: Enabled/Disabled.

## Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a key stroke when you hold the key down.  The settings are: 6, 8, 10, 12, 15, 20, 24, 30.

## Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke   The settings are: 250, 500, 750, 1000.

**Security Option**

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

         **System**        The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

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

**OS Selection for DRAM > 64MB**

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

# 3.6 Advanced Chipset Features

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

Choose the "ADVANCED CHIPSET FEATURES" from the Main Menu and the following screen will appear.

```
          CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                          Advanced Chipset Features
 ┌──────────────────────────────────────────┬───────────────────────────┐
 │  Bank Interleave            Disable       │                           │
 │  SDRAM Cycle Length         3             │        Item Help          │
 │  DRAM Clock                 Host CLK      │                           │
 │  Memory Hole                Disabled      │                           │
 │  P2C/C2P Concurrency        Enabled       ├───────────────────────────┤
 │  Fast R-W Turn Around       Disabled      │  Menu Level   >           │
 │  System BIOS Cacheable      Disabled      │                           │
 │  Video RAM Cacheable        Disabled      │                           │
 │  Frame Buffer Size          8M            │                           │
 │  AGP Aperture Size          64M           │                           │
 │  AGP-4X Mode                Enabled       │                           │
 │  AGP Driving Control        Auto          │                           │
 │x AGP Driving Value          DA            │                           │
 │  OnChip USB                 Enabled       │                           │
 │  USB Keyboard Support       Disabled      │                           │
 │  OnChip Sound               Auto          │                           │
 │  OnChip Modem               Auto          │                           │
 │  CPU to PCI Write Buffer    Enabled       │                           │
 │  PCI Dynamic Bursting       Enabled       │                           │
 │  PCI Master 0 WS Write      Enabled       │                           │
 │  PCI Delay Transaction      Enabled       │                           │
 │  PCI#2 Access #1 Retry      Disabled      │                           │
 │  AGP Master 1 WS Write      Enabled       │                           │
 │  AGP Master 1 WS Read       Enabled       │                           │
 │  Memory Parity/ECC Check    Disabled      │                           │
 │                                           │                           │
 │                                           │                           │
 ├───────────────────────────────────────────┴──────────────────────────┤
 │ ↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
 │    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults      │
 └───────────────────────────────────────────────────────────────────────┘
```

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

## Bank Interleave

If you set this item to Enable, BIOS will set the bank interleave in 2 way or 4 way based on the configuration of SPD EPROM.

## SDRAM Cycle Length

This item allows you to select the SDRAM cycle length. The settings are 2 or 3.

## DRAM Clock

The chipset support synchronous and asynchronous mode between the host clock and DIMM clock.

| | |
|---|---|
| Host CLK (default) | DIMM clock equal to host clock |
| Host CLK+33M | DIMM clock equal to 133MHz |

If you install the CPU with 133MHz FSB, the item will not appear in the BIOS.

## Memory Hole

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

| | |
|---|---|
| Enabled | Memory hole supported. |
| Disabled (default) | Memory hole not supported. |

## P2C/C2P Concurrency

This item allows you to Enable or Disable the PCI to CPU, CPU to PCI concurrency. The default setting is Enabled.

## Fast R-W Turn Around

This item controls the DRAM timing. It allows the user to Enable or Disable the fast read, write turn around. The settings are Enabled or Disabled. The default setting is Disabled.

## System BIOS Cacheable

Selecting *Enabled* allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.  However, if any program writes to this memory area, a system error may result.   The settings are: Enabled and Disabled.

## Video RAM Cacheable

Select Enabled allows caching of the video BIOS , resulting in better system performance.  However, if any program writes to this memory area, a system error may result.  The settings are: Enabled and  Disabled.

## Frame Buffer Size

This item allows you to adjust on board frame buffer size from 4MB, 8MB, 16MB to 32MB.  The default size will be 8MB.

## AGP Aperture Size

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

## AGP-4X Mode

This item is used to Enabled or Disabled the AGP support for AGP 4x mode.

## AGP Driving Control

This item allows you to adjust the AGP driving force.  Choose Manual to key in a AGP Driving Value in the next selection.  This field is recommended to set in Auto for avoiding any error in your system.  The default setting is Auto.

## AGP Driving Value

This item allows you to adjust the AGP driving force.

## Onchip USB

Set this option to Enable or Disable the onchip USB controller.  The default setting is Enabled.

## USB Keyboard Support

Set this option to Enable or Disable the USB keyboard/mouse support.  The default setting is Disabled.

## OnChip Sound

This item allows you to control the onboard AC 97 audio.

## OnChip Modem

This item allows you to control the onboard MC 97 Modem.

## CPU to PCI Write Buffer

When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the differences between the CPU and the PCI bus.  When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another cycle.  The default setting is Enabled.

## PCI Dynamic Bursting

This item allows you to Enable or Disable the PCI dynamic bursting function.  The settings are Enabled or Disabled.

## PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles.  Select Enabled to support compliance with PCI specification version 2.1.  The settings are Enabled or Disabled.

## PCI#2 Access #1 Retry

When Disabled, PCI#2 will not be disconnected until access finishes (default).  When Enabled, PCI#2 will be disconnected if max retries are attempted without success.  The default setting is  Enabled.

### AGP Master 1 WS Write

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states.  The default setting is Enabled.

### AGP Master 1 WS Read

When Enabled, reads to the AGP (Accelerated Graphics Port) are executed with one wait states.  The default setting is Enabled.

### Memory Parity/ECC Check

This item when Enabled detects the memory parity and Error Checking & Correction.  The settings are Enabled or Disabled.

# 3.7 Integrated Peripherals

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Integrated Peripherals

```
┌─────────────────────────────────────────────────┬──────────────────────┐
│ Onchip IDE Channel0          Enabled             │                      │
│ Onchip IDE Channel1          Enabled             │      Item Help       │
│ IDE Prefetch Mode            Enabled             │                      │
│ Primary Master PIO           Auto                │                      │
│ Primary Slave PIO            Auto                ├──────────────────────┤
│ Secondary Master PIO         Auto                │ Menu Level  >        │
│ Secondary Slave PIO          Auto                │                      │
│ Primary Master UDMA          Auto                │                      │
│ Primary Slave UDMA           Auto                │                      │
│ Secondary Master UDMA        Auto                │                      │
│ Secondary Slave UDMA         Auto                │                      │
│ Init Display First           AGP                 │                      │
│ IDE HDD Block Mode           Enabled             │                      │
│ Onboard FDD Controller       Enabled             │                      │
│ Onboard Serial Port 1        Auto                │                      │
│ Onboard Serial Port 2        Auto                │                      │
│ UART 2 Mode                  Standard            │                      │
│ x IR Function Duplex         Half                │                      │
│ x TX,RX inverting enable     No, Yes             │                      │
│ Onboard Parallel Port        378/IRQ7            │                      │
│ Onboard Parallel Mode        Normal              │                      │
│ x ECP Mode Use DMA           3                   │                      │
│ x Parallel Port EPP Type     EEP 1.9             │                      │
│ Onboard Legacy Audio         Enabled             │                      │
│ Sound Blaster                Disabled            │                      │
│ SB I/O Base Address          220H                │                      │
│ SB IRQ Select                IRQ 5               │                      │
│ SB DMA Select                DMA1                │                      │
│ MPU-401                      Disabled            │                      │
│ MPU-401 I/O Address          330-333H            │                      │
│ Game Port (200-207H)         Enabled             │                      │
├─────────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help │
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults        │
└─────────────────────────────────────────────────────────────────────────┘
```

### OnChip IDE Channel0/Onchip IDE Channel1

The integrated peripheral controller contains an IDE interface with support for two IDE channels.  Select *Enabled* to activate each channel separately.  The settings are Enabled and Disabled.

### IDE Prefetch Mode

This item is used to Enabled or Disabled the IDE Read/Write Prefetch buffer.  This buffer is used to store data for faster performances.

## Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Primary/Secondary Master/Slave UDMA

Ultra DMA Mode implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, 66 or 100, select Auto to enable BIOS support. The settings are Auto and Disabled.

## Init Display First

This item allows you to decide to activate whether PCI Slot or AGP Slot. The settings are PCI Slot and AGP Slot.

## IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support. The settings are Enabled and Disabled.

## Onboard FDD Controller

Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you wish to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field. The settings are Enabled and Disabled.

## Onboard Serial Port 1/Port 2

Select an address and corresponding interrupt for the first and second serial ports. The settings are 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled and Auto.

## UART 2 Mode

This item allows you to select which mode for the Onboard Serial Port 2. The settings are Standard, HPSIR and ASKIR.

## IR Function Duplex

This item allows you to select the IR half/full duplex function.

## TX, RX inverting enable

This item allows you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

## Onboard Parallel Port

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

> **Disable**
> 3BCH/IRQ7   Line Printer port 0
> 278H/IRQ5   Line Printer port 2
> 378H/IRQ7   Line Printer port 1

### Onboard Parallel Mode

    SPP  : Standard Parallel Port
    EPP  : Enhanced Parallel Port
    ECP :  Extended Capability Port

        To operate the onboard parallel port as Standard Parallel Port only, choose "SPP." To operate the onboard parallel port in the ECP and SPP modes simultaneously, choose "ECP/SPP." By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP/EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: "ECP Mode Use DMA" At this time the user can choose between DMA channels 3 or 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: "EPP Mode Select." At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

### ECP Mode Use DMA

        Select a DMA channel for the parallel port for use during ECP mode. The settings are 3 or 1. The default setting is 3.

### Parallel Port EPP Type

        Select EPP port type 1.7 or 1.9.

### Onboard Legacy Audio

    This fields controls the onboard legacy audio.
- Sound Blaster
- SB I/O Base Address
- SB IRQ Select
- SB DMA Select
- MPU-401
- MPU-401 I/O Address
- Game Port (200-207H)

## 3.8 Power Management Setup

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

```
         CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                          Power Management Setup
┌─────────────────────────────────────────────┬──────────────────────┐
│  ICPA Function              Enabled          │                      │
│▶ Power Management           Press Enter      │      Item Help        │
│  PM Control by APM          Yes              │                      │
│  Video Off Option           Suspend->Off     │                      │
│  Video Off Method           V/H SYNC+Blank   │ Menu Level  >        │
│  MODEM Use IRQ              3                │                      │
│  Soft-Off by PWRBTN         Instant-Off      │                      │
│  State After Power Failure  Off              │                      │
│  CPU Fan In Suspend         Off              │                      │
│  LED In Suspend             Blink            │                      │
│▶ Wake Up Events             Press Enter      │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
├─────────────────────────────────────────────┴──────────────────────┤
│↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
│   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults     │
└─────────────────────────────────────────────────────────────────────┘
```

### ICPA Function

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The Settings are Enabled and Disabled.

## Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

      1.     HDD Power Down

      2.     Doze Mode

      3.     Suspend Mode

There are three selections for Power Management, two of which have fixed mode settings.

| | |
|---|---|
| **Min. Power Saving** | Minimum power management. Suspend Mode = 1hr., and Doze Mode = 1 hr. |
| **Max. Power Saving** | Maximum power management — Suspend Mode = 1 min., and Doze Mode = 1 min. |
| **User Defined (default)** | Allows you to set each mode individually.  When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. |

## PM Control by APM

| | |
|---|---|
| **No** | System BIOS will ignore APM when power managing the system. |
| **Yes** | System BIOS will wait for APM's prompt before it enter any PM mode |

**Note :** Enable this for O.S. with APM like Windows® 98, Windows® NT, etc.

## Video Off Option

The settings are Always On, Suspend and All Modes. This option is for choosing the setting in which the monitor will turn off.

| | |
|---|---|
| **Always On** | Always turn on. |
| **Suspend** | During Suspend mode, the monitor will be turned off. The default setting is Suspend. |
| **All Modes** | The monitor is turned off during Doze, Standby or Suspend mode. |

## Video Off Method

This determines the manner in which the monitor is blanked.

**V/H SYNC+Blank**   This selection will cause the system to turn off the vertical and horizontal synchroniza tion ports and write blanks to the video buffer.

**Blank Screen**      This option only writes blanks to the video buffer.

**DPMS (default)**    Initial display power management signaling.

## Modem Use IRQ

This determines the IRQ in which the MODEM can use. The settings are 3, 4, 5, 7, 9, 10, 11 and NA.

## Soft-Off by PWR-BTTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state. The settings are Delay 4 Sec and Instant-Off.

## State After Power Failure

This option will determine how the system will power on after a power failure.

## CPU Fan In Suspend

Selecting On will enable the CPU Fan to stop after the system enters the suspend mode. The settings are On and Off.

## Wake Up Events

```
   VGA                      Off
   LPT & COM I/O ACCESS     LPT/COM            Item Help
   HDD & FDD I/O ACCESS     On
   PCI Master               Off
   Power On by PCI Card     Disabled      Menu Level  >
   Wake Up On LAN/Ring      Disabled
   RTC Alarm Resume         Disabled
 x Date (of Month)          0
 x Resume Time              0:0:0
   IRQs Wake Up Event       ON
 ▶ IRQs Activity Monitoring  Press Enter




↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults
```

### VGA

When ON, you can set the VGA to awaken the system.

### LPT & COM

The settings are NONE, LPT, COM and COM/LPT. You can set which port is used to wake up the system when there is any activity from one of the listed ports.

### HDD & FDD

When HDD & FDD is On, any activity from one of the listed system peripheral devices or IRQs wakes up the system

### PCI Master

When PCI Master is On, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

### Wake Up On LAN/Ring

To use this function, you need a LAN add-on card or Modem which supports power on functions.  During Disabled, the system cannot be boot

up through LAN and ignores any incoming call from the modem.  During Enabled, the system can be boot up through LAN and modem.

## RTC Alarm Resume

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

| | |
|---|---|
| **Date (of month) Alarm** | You can choose which month the system will boot up. Set to 0, to boot every day. |
| **Time (hh:mm:ss) Alarm** | You can choose what hour, minute and second the system will boot up. |

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

## IRQs Wake Up Event

When On, any activity from one of the IRQs wakes up the system

## IRQs Activity Monitoring

```
 IRQ3  (COM 2)           Enabled
 IRQ4  (COM 1)           Enabled                Item Help
 IRQ5  (LPT 2)           Enabled
 IRQ6  (Floppy Disk)     Enabled
 IRQ7  (LPT 1)           Enabled
 IRQ8  (RTC Alarm)       Disabled     Menu Level   >
 IRQ9  (IRQ2 Redir)      Disabled
 IRQ10 (Reserved)        Disabled
 IRQ11 (Reserved)        Disabled
 IRQ12 (PS/2 Mouse)      Enabled
 IRQ13 (Coprocessor)     Enabled
 IRQ14 (Hard Disk)       Enabled
 IRQ15 (Reserved)        Disabled




 ↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults
```

The following is a list of  IRQ's, **I**nterrupt **ReQ**uests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur.  When the operating system is ready to respond to the request, it interrupts itself and performs the service.

When set to On, activity will neither prevent the system from going into a power management mode nor awaken it.

- IRQ3  (COM 2)
- IRQ4  (COM 1)
- IRQ5  (LPT 2)
- IRQ6  (Floppy Disk)
- IRQ7  (LPT 1)
- IRQ8  (RTC Alarm)
- IRQ9  (IRQ2 Redir)
- IRQ10 (Reserved)
- IRQ11 (Reserved)
- IRQ12 (PS/2 Mouse)
- IRQ13 (Coprocesssor)
- IRQ14  (Hard Disk)
- IRQ15 (Reserved)

# 3.9 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system.  PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components.  This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

```
             CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                          PnP/PCI Configuration Setup
 ┌────────────────────────────────────────────────┬──────────────────────┐
 │  PnP OS Installed            No                 │                      │
 │  Reset Configuration Data    Disabled           │      Item Help       │
 │                                                 │                      │
 │  Resources Controlled By     Auto (ESCD)        ├──────────────────────┤
 │x IRQ Resources               Press Enter        │  Menu Level   >      │
 │x DMA Resources               Press Enter        │                      │
 │                                                 │                      │
 │  PCI/VGA Palette Snoop       Disabled           │                      │
 │  Assign IRQ for VGA          Enabled            │                      │
 │  Assign IRQ for USB          Enabled            │                      │
 │                                                 │                      │
 │                                                 │                      │
 │                                                 │                      │
 │                                                 │                      │
 │                                                 │                      │
 │                                                 │                      │
 │                                                 │                      │
 │                                                 │                      │
 ├─────────────────────────────────────────────────┴──────────────────────┤
 │↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  │
 │   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults         │
 └────────────────────────────────────────────────────────────────────────┘
```

### PnP OS Installed

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

### Reset Configuration Data

Normally, you leave this field Disabled.  Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.
The settings are Enabled and Disabled .

### Resource Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices.  However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows®95/98.  If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a "➢").  The settings are: Auto (ESCD), Manual.

### IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

### DMA Resources

This sub menu can let you control the DMA resource.

### PCI/VGA Palette Snoop

Leave this field at *Disabled*.  The settings are Enabled, Disabled.

### Assign IRQ for VGA

Leave this field at *Enabled*.  The settings are Enabled, Disabled.

### Assign IRQ for USB

Leave this field at *Enabled*.  The settings are Enabled, Disabled.

# 3.10 Frequency/Voltage Control

This section is for setting CPU Frequency/Voltage Control.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Frequency/Voltage Control

```
Auto Detect DIMM/PCI Clk      Enabled
CPU Host/PCI/Spread Spec      Default              Item Help

                                            Menu Level   >








↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults
```

### Auto Detect DIMM/PCI CLK
This item allows you to enable/disable auto detect DIMM/PCI Clock. The settings are Enabled and Disabled.

### CPU Host/PCI/Spread Spec.
This item allows you to select the CPU Host bus and PCI Clock, and set Spread Spectrum feature.

# 3.11 Load Fail-Safe/Optimized Defaults

**Load Fail-Safe Defaults**
When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

    Load Fail-Safe Defaults (Y/N) ?  N

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

**Load Optimized Defaults**
When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

    Load Optimized Defaults (Y/N) ?  N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

# 3.12 Set Supervisor/User Password

You can set either supervisor or user password, or both of them.  The differences are:

**Supervisor password :**    can enter and change the options of the setup menus.

**User password**    :    Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>.  The password typed now will clear any previously entered password from CMOS memory.  You will be asked to confirm the password.  Type the password again and press <Enter>.  You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password.  A message will confirm the password will be disabled.  Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup.  This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted.  This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option.  If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

## Chapter 4

# VIA CHIPSET DRIVER

## Overview

The MS-6340M is paired with the VIA VT82C686B south bridge. Highly advanced, the north bridge combines ProSavage4 VGA, and the south bridge combines an integrated 2D/3D engine with DVD hardware acceleration, AC-97 audio support for SoundBlaster Pro and FM synthesis legacy audio.

### Audio Features

- AC'97 audio support for SoundBlaster Pro
- FM synthesis legacy audio

### System Requirements
This section describes system requirements for the VGA Driver installation and Usage.

| | |
|---|---|
| **CPU** | AMD® Duron™/Athlon™ processor or higher |
| **Monitor** | VGA Support, mimimum 640x480 resolution |
| **Operating System** | DOS 5.0 or higher, Windows® 95/98SE, Windows® NT 3.51 or 4.0, Windows® ME, Windows® 2000 or OS/2® |
| **CD-ROM** | Double Speed or Higher |
| **Chipset** | VIA® KM133A/VT82C686B chipset |

## Driver Setup & Usage Procedures for Windows® 98SE

### VIA Chipset Drivers installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.

**Step 3:**  Click on "Via Chipset Drivers" icon and the screen will show "VIA Service Pack 4.XX".

**Step 4:**  Click "Next" and the screen will show a "VIA Service Pack 1 README" dialog box.

**Step 5:**  Click "Next" and the screen will show four drivers "VIA Atapi Vendor Support Driver", "AGP VxD Driver",  "IRQ Routing Miniport Driver" and "VIA INF Driver 1.XX". Select all four drivers and click on "Next".

**Step 6:**  The setup program will request you to choose "Install VIA Atapi Vendor Support Driver".  Please select "Install" and click "Next" to continue.

**Step 7:**  Select "Click to enable DMA Mode" and click "Next" to continue.

**Step 8:**  The setup program will request you to choose "Install VIA AGP VxD in turbo mode", "Install VIA AGP VxD in normal mode" or "Uninstall VIA AGP VxD".  Please select "Install VIA AGP VxD in turbo mode" and click on "Next".

**Step 9:**  Please select "Install VIA IRQ Routing Miniport Driver" and then click "Next".

**Step 10:** The setup program will request you to choose whether to restart the computer or not.  Please select "Yes, I want to restart my computer now" and click "Finish".  The computer will restart and finish the VIA Chipset Drivers installation.

### VIA AC97 Audio Driver installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM
icon.  This will show the setup screen.
**Step 3:**  Click on "VIA AC97 PCI Sound Drivers" icon and the
screen will show "VIA Audio Driver Setup Program 1.XX".
**Step 4:**  Click "Next" to proceed and the screen will show "Install",
or "Uninstall".  Select "Install" and then click  on "Next".
**Step 5:**  Click "Finish" to complete the AC97 Audio Driver
Installation.

### VIA KM133A VGA Driver installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM
icon.  This will show the setup screen.
**Step 3:**  Click on "VIA KM/KL/PM/PL133 VGA Driver" icon and the
screen will show "Pro Savage Driver Setup".  Click "Next".
**Step 4:**  The screen will show a "Start Copying Files" dialog box.
Click "Next".
**Step 5:**  The setup program will request you to choose whether to
restart the computer or not.  Please select "Yes, I want to
restart my computer now" and click Finish.  The computer
will restart and finish the VIA ProSavage Driver installation.

## Driver Setup & Usage Procedures for Windows® 2000

### VIA Chipset Drivers installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.

**Step 3:**  Click on "Via Chipset Drivers" icon and the screen will show "VIA Service Pack 4.XX".

**Step 4:**  Click "Next" and the screen will show a "VIA Service Pack 1 README" dialog box.

**Step 5:**  Click "Yes" and the screen will show three drivers "VIA Bus Master Ultra ATA Driver (Windows 2000)", "AGP VxD Driver" and "VIA INF Driver 1.XX."  Select all and click "Next" to proceed to next step.

**Step 6:**  The screen will show a "VIA Bus Master Ultra ATA Driver" dialog box.  Select "Install" and click "Next".

**Step 7:**  The screen will show a "VIA GART AGP Driver 4.XX" dialog box.  Select "Install AGP 4X/133 driver" and click "Next".

**Step 8:**  There is a "Read Only File Detected" dialog box.  Click "Yes". A dialog box "Digital Signature Not Found" will appear and ask you "Do you want to continue the installation of the VIA Bus Master Ultra ATA Controller".  Click "Yes" to continue.

**Step 9:**  Select "Yes" and then click "Finish" to restart the system.

**Step 10:** After restart, the system will find a new hardware device and the "Found New Hardware Wizard" dialog box will appear. Click "Next" to the next screen and a "VIA BM Ultra DMA Channel" device will be found.

**Step 11:** Click "Next" and the driver search result will be shown on the screen.  Click "Next".

**Step 12:** A dialog box "Digital Signature Not Found" will appear.  Click "Yes".

**Step 13:** Click "Finish" and then click "Yes" to restart the system.

**Step 14:** Repeat **Step 10 through Step 13** again.

**Step 15:** After restart, the VIA Chipset driver installation will be

complete.

## VIA AC97 PCI Sound Drivers installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.
**Step 3:**  Click on "VIA AC97 PCI Sound Drivers" icon and the screen will show "VIA AC97 PCI Sound Drivers".
**Step 4:**  Click "Next" to proceed and the screen will show "Install", or "Uninstall".  Select "Install" and then click  on "Next".
**Step 5:**  A window "Digital Signature Not Found" will appear and ask you "Do you want to continue the installation of the VIA AC'97 Audio Controller (WDM) Driver?"  Please click "Yes" to proceed.
**Step 6:**  Click "Finish" to complete setup.

## VIA KM133A VGA Driver installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.
**Step 3:**  Click on "VIA KM/KL/PM/PL133 VGA Driver" icon and the screen will show "ProSavage Driver Setup".  Click "Next".
**Step 4:**  The screen will show a "Start Copying Files" dialog box. Click "Next".
**Step 5:**  A window "Digital Signature Not Found" will appear and ask you "Do you want to continue the installation of the S3 Graphics Inc. Pro Savage?"  Please click "Yes" to proceed.
**Step 6:**  Click "Finish" to restart your computer and complete setup.

## Driver Setup & Usage Procedures for Windows® ME

### VIA Chipset Drivers installation procedure:

**Step 1:**   Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:**   Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.

**Step 3:**   Click on "Via Chipset Drivers" icon and the screen will show "VIA Service Pack 4.XX".

**Step 4:**   Click "Next" and the screen will show a "VIA Service Pack 1 README" dialog box.

**Step 5:**   Click "Yes" and the screen will show two drivers "AGP VxD Driver" and "VIA INF Driver 1.XX".  Select all and click "Next" to proceed to next step.

**Step 6:**   The screen will show a "VIA_GART AGP Driver 4.XX" dialog box.  Select "Install VIA AGP VxD in Turbo mode" and click "Next".

**Step 7:**   The setup program will request you to choose whether to restart the computer or not.  Please select "Yes, I want to restart my computer now" and click "Finish".  The computer will restart and finish the VIA Chipset Drivers installation.

### VIA AC97 PCI Sound Drivers installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM
              icon.  This will show the setup screen.
**Step 3:**  Click on "VIA AC97 PCI Sound Drivers" icon.
**Step 4:**  Then you restart the system manually to make it work.

### VIA KM133A VGA Driver installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM
              icon.  This will show the setup screen.
**Step 3:**  Click on "VIA KM/KL/PM/PL133 VGA Driver" icon and the
              screen will show "ProSavage Driver Setup".  Click "Next".
**Step 4:**  The screen will show a "Start Copying Files" dialog box.
              Click "Next".
**Step 5:**  The setup program will request you to choose whether to
              restart the computer or not.  Please select "Yes, I want to
              restart my computer now" and click "Finish".  The computer
              will restart and finish the ProSavage Driver installation.

# Driver Setup & Usage Procedures for Windows® NT 4.0

Install Windows® NT 4.0 Service Pack 6 or the latest version before installing the VIA drivers.

**VIA Chipset Drivers Installation Procedure:**

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.

**Step 3:**  Click on "VIA Chipset Drivers" icon and the screen will show "VIA Service Pack 4.XX".

**Step 4:**  Click "Next" and the screen will show the "VIA Service Pack 1 README" dialog box.

**Step 5:**  Click "Yes" to proceed and then select "Install" to enable (Ultra) DMA for IDE Driver.

**Step 6:**  The "Choose Destination Location" dialog box appears. Click "Next".

**Step 7:**  The "Select Program Folder" dialog box appears.  Click "Next".

**Step 8:**  Please click on "Yes, I want to restart my computer" and then click "Finish" to restart your computer and complete installation.

**VIA AC97 PCI Sound Drivers Installation Procedure:**

**Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.

**Step 3:** Click on "VIA AC97 PCI Sound Drivers" icon and the screen will show the "VIA PCI Audio Drivers" setup screen. Click "Next" to continue

**Step 4:** The setup program will show "Install" or "Uninstall" on the screen. Select "Install" and click "Next"

**Step 5:** The setup program will show the following on the screen:

> Please choose "Add" from the next window and add the following device:
>       VIA PCI Audio Controller
>       VIA MIDI External Port

    Then click "OK".

**Step 6:** Follow the steps shown in **Step 5** to finish the VIA AC97 PCI Audio Drivers Installation.

**Step 7:** A window will appear asking "Do you want to install the joystick driver for the Microsoft Sidewinder 3D Pro Joystick?" Please click "No" to continue.

**Step 8:** Please click "Finish" to restart your computer and complete installation.

## VIA KM133A VGA Driver installation procedure:

**Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.

**Step 3:** Click on "VIA KM/KL/PM/PL133 VGA Driver" icon and the screen will show "ProSavage Driver Setup". Click "Next".

**Step 4:** The screen will show a "Start Copying Files" dialog box. Click "Next".

**Step 5:** Click "Finish" to restart your computer and complete installation.

## Chapter 5

## CREATIVE AUDIO DRIVER (OPTIONAL)

## Creative CT5880

The Creative® CT5880 digital controller provides the next generation of audio performance to the PC market.

### Features

- SoundScape WaveTable Synthesizer.
- Full DOS Game Compatibility.
- PCI Bus Master for fast DMA.
- Fully Compliant with PC97 Power Management Specification.

### System Requirements

This section describes system requirements for the Audio Driver installation and Usage.

|  |  |
|---|---|
| **CPU** | AMD® Duron™/Athlon™ processor or higher |
| **Operating system** | DOS 5.0 or higher, Windows® 95, Windows® 98SE, Windows® NT 3.51 or 4.0, Windows® ME, Windows® 2000 or OS/2® |
| **CD-ROM** | Double Speed or Higher |
| **Chipset** | Creative® CT5880 |

## Audio Driver Setup Procedures for Windows® 98SE/ME

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.
**Step 3:**  Click on "Creative PCI 128 Sound Drivers" icon.
**Step 4:**  The setup program will request you to "Remove and Install Software" or "Remove Only".  Select "Remove and Install Software" and click "Next" to continue
**Step 5:**  Click "Finish" and then click "Yes" to restart your computer and complete your installation.

## Audio Driver Setup Procedures for Windows® 2000

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.
**Step 3:**  Click on "Creative PCI 128 Sound Drivers" icon.
**Step 4:**  The setup program will request you to "Remove and Install Software" or "Remove Only".  Select "Remove and Install Software" and click "Next" to continue
**Step 5:**  A dialog box "Digital Signature Not Found" appears and ask you "Do you want to continue the installation of Creative Sound Blaster PCI128 (WDM)?"  Click "Yes".
**Step 6:**  Click "Finish" to complete installation.

## Audio Driver Setup Procedures for Windows® NT4.0

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.
**Step 3:**  Click on "Creative PCI 128 Sound Drivers" icon.

**Step 4:** The setup program will request you to "Remove and Install Software" or "Remove Only". Select "Remove and Install Software" and click "Next" to continue

**Step 5:** Click "Finish" and then click "Yes" to restart your computer and complete your installation.