# MI7WBM SERIES

## Socket 370 Intel 810/810E

## Micro ATX Motherboard

# User's Manual

Version 1.0A

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# Contents

# Chapter 1 Introduction

This manual is designed to give you information on the MI7WBM motherboard. It is divided into the following sections:

- **Introduction**
- **Specifications**
- **Hardware Description**
- **Configuring the Motherboard**
- **Installation**
- **BIOS Configuration**
- **Intel 810 Drivers Installation**

## Checklist

Please check that your package is complete and contains the items below. If you discover damaged or missing items, please contact your dealer.

- ☐ The MI7WBM Motherboard
- ☐ 1 IDE ribbon cable with UDMA66 support
- ☐ 1 floppy ribbon cable

The ATA-66 IDE cable is used in conjunction with Ultra DMA/66 hard disks. Refer to the figure below on how to connect the cable.

## Product Information

| MODEL NO. | Features |
|---|---|
| **MI7WBM series** | **Intel 810 DC100 with 4MB display memory**<br>**Supports Suspend to RAM (STR)**<br>**Supports 66/100MHz Front Side Bus**<br>**Supports Ultra DMA33/66** |
| **MI7WBML series** | **Intel 810**<br>**Does not support Suspend to RAM (STR)**<br>**Supports 66/100MHz Front Side Bus**<br>**Supports Ultra DMA33/66** |
| **MI7WBME series** | **Intel 810E**<br>**Supports Suspend to RAM (STR)**<br>**Supports 66100/133MHz Front Side Bus**<br>**Supports Ultra DMA33/66** |

# Chapter 2 Specifications

The MI7WBM is a high-performance Micro ATX Intel 810 motherboard with a Socket 370 connector for Intel Celeron/Coppermine processors. The motherboard offers flexibility in terms of CPU frequency and main memory type and size. The main features of the motherboard consist of the following:

**CPU Socket**
Socket 370

**Chipset**
Intel 810 / 810E

**Processor**
Intel Celeron / Coppermine
300 ~ 600MHz or higher when available

**Bus Speed**
66/100MHz (for 810 chipset)
66/100/133MHz (for 810E chipset)

**L2 Cache**
CPU integrated L2 cache

**Main Memory**
Two 168-pin DIMM sockets
Memory types: SDRAM (Synchronous DRAM)
Memory sizes: 64MB, 128MB

**Chipset**
Intel 810 chipset with built-in PCI-IDE

**Super I/O**
Built-in Winbond 83627HF chip
- Two 16550 UART compatible serial ports
- One parallel port (ECP/EPP compatible)
- One floppy controller (2.88MB compatible)
- One IrDA port

**PCI Bus Master IDE Controller**

The onboard chipset's PCI Bus Master IDE controller with two connectors for up to four IDE devices in two channels, supporting enhanced IDE devices such as tape backup and CD-ROM drives, PIO Mode 3/4 and Bus Mastering Ultra DMA/66 / Ultra DMA/33.

*Note: A UDMA66 cable should be used for UDMA66 interface. Under Windows NT 4.0, you need to install Windows NT Service Pack 5.)*

**BIOS**

Award BIOS with ISA Plug and Play (PnP) extension, DMI, bootable CD-ROM and power-management features. The BIOS is Y2K (Year 2000) compliant.

**Mouse Connector**

PS/2 type

**Keyboard Connector**

PS/2 type

**USB Connector**

2 ports on board

**Win95/98 shut-off**

Allows shut-off control from within Windows 95/98

**Onboard Audio**

Onboard AC97 Codec

**Onboard VGA**

The highly integrated graphics accelerator consists of dedicated multimedia engines executing in parallel to deliver high performance 3D, 2D and motion compensation video capabilities. The 3D and 2D engines are managed by a 3D/2D pipeline preprocessor allowing a sustained flow of graphics data to be rendered and displayed. It also features a 4MB display cache buffer.

**Expansion Slots**

Three 32-bit PCI slots
One AMR slot for modem

**Form Factor**

Micro ATX, 9.65" x 7.87" (24.5cm x 20cm)

# Chapter 3 Hardware Description

This chapter briefly describes each of the major features of the MI7WBM motherboard. The layout of the board in Figure 1 shows the location of the key components. The topics covered in this chapter are as follows:

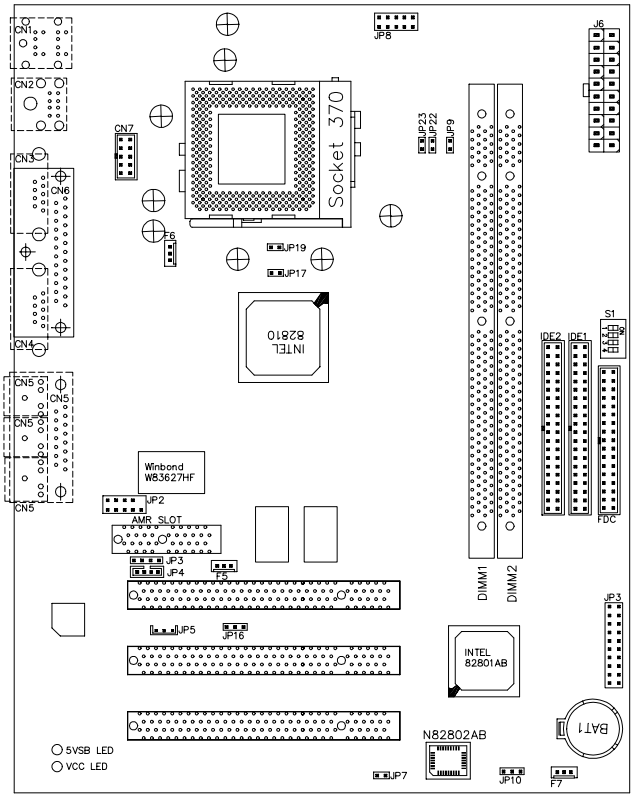



**Figure 1: Layout of the MI7WBM Motherboard**

## 3.1 Processor

The MI7WBM motherboard is designed to take an Intel Celeron processor running 300/333/350/366/400/433/450/466/500MHz.

## 3.2 L2 Cache

The L2 cache is integrated in the processor.

## 3.3 Main Memory

The MI7WBM motherboard supports two 168-pin DIMM (Dual In-line Memory Module) sockets to form a memory configuration from 64MB to 256MB. DIMM modules can be 64M and128MB in SDRAM. In populating the DIMM sockets, any socket can be populated first. Refer to the following table on how to do the memory configuration.

| (DIMM1) | (DIMM2) | Total Memory |
|---|---|---|
| 64MB | ----- | 64MB |
| 128MB | ----- | 128MB |
| 64MB | 64MB | 128MB |
| 128MB | 64MB | 192MB |
| 128MB | 128MB | 256MB |

Use SDRAM modules with PC100 specification only when running either 66MHz or100MHz CPU bus speed.

The red LED indicator beside the DIMM memory sockets determine if there is electric current in the memory. Before removing or installing a memory module, make sure that this LED indicator is not ON. If the LED light is on, please turn off the power or unplugged the power cable.

## 3.4 BIOS

The BIOS on the MI7WBM motherboard provides the standard BIOS functions plus the following feature:

**Power Management**
The power management feature provides power savings by slowing down the CPU clock, turning off the monitor screen and stopping the HDD spindle motor. The BIOS fully conforms to ACPI (Advanced Configuration and Power Interface) specification.

## 3.5 Onboard VGA

The highly integrated graphics accelerator consists of dedicated multimedia engines executing in parallel to deliver high performance 3D, 2D and motion compensation video capabilities. The 3D and 2D engines are managed by a 3D/2D pipeline preprocessor allowing a sustained flow sustained flow of graphics data to be rendered and displayed. It also features a 4MB display cache buffer.

## 3.6 Hardware Monitoring

The Winbond 83627HFchip has a built-in hardware status monitoring function that monitor several hardware parameters including power supply voltages, fan speeds, and temperatures, which are very important for a high-end computer system to work stable and properly. This function is used together with System Monitor utility or the optional Intel LANDesk Client Manager utility.

## 3.7 Onboard Multi-I/O

The multi-I/O function is built in the Winbond 83627HF chip supports a keyboard controller, two serial ports, one parallel port, one floppy controller and one IrDA port. The serial ports are 16550 UART compatible. The parallel port features high-speed EPP/ECP mode. The floppy controller supports up to 2.88MB format.

## 3.8 Interrupt Request (IRQ) Lines

There are a total of 15 IRQ lines available on the motherboard. Peripheral devices use an interrupt request to notify the CPU for the service required. The following table shows the IRQ lines used by the devices on the motherboard:

| Level | | Function |
|---|---|---|
| IRQ0 | | System Timer Output |
| IRQ1 | | Keyboard |
| IRQ2 | | Interrupt Cascade |
| | IRQ8 | Real Time Clock |
| | IRQ9 | Software Redirected to Int 0Ah |
| | IRQ10 | Reserved |
| | IRQ11 | Reserved |
| | IRQ12 | Reserved |
| | IRQ13 | Co-Processor |
| | IRQ14 | Primary IDE |
| | IRQ15 | Secondary IDE |
| IRQ3 | | INTERRUPT |
| IRQ4 | | Serial Port #1 |
| IRQ5 | | INTERRUPT |
| IRQ6 | | Floppy Disk Controller |
| IRQ7 | | Parallel Port #1 |

## 3.9 Onboard PCI-IDE

The Intel 810 chipset's built-in's PCI-IDE controller supports PIO mode 3/4 and bus mastering Ultra DMA/66 / Ultra DMA/33. The peak transfer rate of PIO mode 3/4 can be as high as 17MB/sec. Using HDDs that support Ultra DMA/66, the peak transfer rate can reach 66MB/sec. The peak transfer rate of PIO mode 3/4 can be as high as 17MB/sec. There are two IDE connectors - primary IDE and secondary IDE. With two devices per connector, up to four IDE devices can be supported.

## 3.10 DMA Channels

There are seven DMA channels available on the motherboard; only DMA2 is used by the floppy controller. In the case that ECP mode on the parallel port is utilized, DMA1 or DMA3 will be used.

## 3.11 I/O Port Address Map

Each peripheral device in the system is assigned a set of I/O port addresses, which also becomes the identity of the device. There is a total of 1K port address space available. The following table lists the I/O port addresses used on the motherboard.

| Address | Device Description |
|---|---|
| 000h - 01Fh | DMA Controller #1 |
| 020h - 03Fh | Interrupt Controller #1 |
| 040h - 05Fh | Timer |
| 060h - 06Fh | Keyboard Controller |
| 070h - 07Fh | Real Time Clock,, NMI |
| 080h - 09Fh | DMA Page Register |
| 0A0h - 0BFh | Interrupt Controller #2 |
| 0C0h - 0DFh | DMA Controller #2 |
| 0F0h | Clear Math Coprocessor Busy Signal |
| 0F1h | Reset Math Coprocessor |
| 1F0h - 1F7h | IDE Interface |
| 2F8h - 2FFh | Serial Port #2(COM2) |
| 378h - 3FFh | Parallel Port #1(LPT1) |
| 3F0h - 3F7h | Floppy Disk Controller |
| 3F8h - 3FFh | Serial Port #1(COM1) |

## 3.12 Onboard Audio

Onboard AC97 Codec

# Chapter 4 Configuring the Motherboard

The following sections describe the necessary procedures and proper jumper settings to configure the MI7WBM motherboard. For the locations of the jumpers, refer to Figure 2.



The following examples show the conventions used in this chapter.

| | |
|---|---|
|  | Jumper Open |
|  | Jumper Closed/Short |

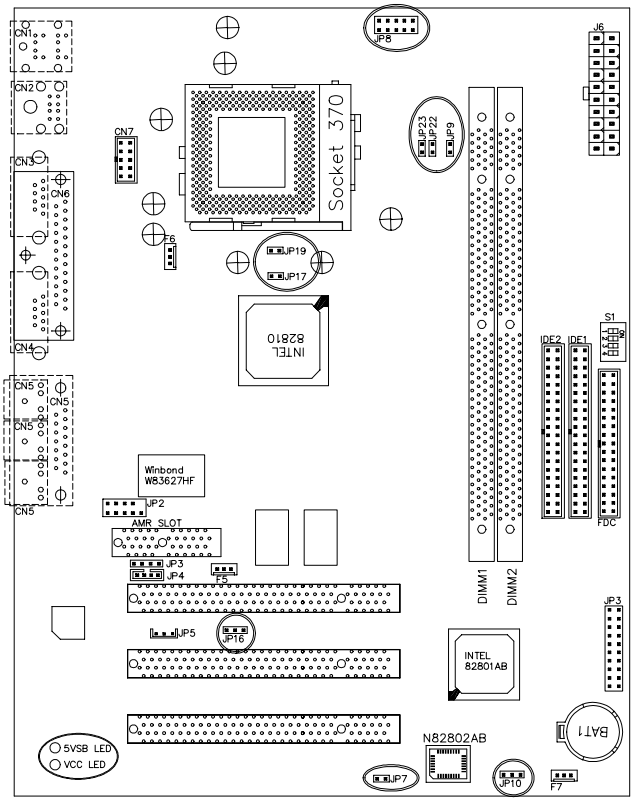



**Figure 2: Jumper Location on the MI7WBM**

## 4.1 CPU Frequency Setting

The MI7WBM uses jumper-free technology in configuring the processor on the motherboard. The system automatically detects the CPU bus speed, 66MHz or 100MHz and sets the multiplier, or ratio, to 3X. However, the bus speed can also be configured through the BIOS if the processor supports this feature. The BIOS (under CPU Features Setup) allows users to change the CPU bus speed multiplier (3X, 3.5X, 4X, 4.5X, 5X, 5.5X, 6X, 6.5X, 7X, 7.5X, 8X) to set the correct or desired CPU frequency. *The CPU bus speed multiplier will remain unchanged if the CPU installed supports a fixed (only one) bus speed multiplier.*

It is possible that the system will not boot if the CPU has been changed. When this happens, turn off the computer by pressing the power button and turn it on again by pressing the Insert key and the power button simultaneously. (*Note to press the Insert key until an image appears on the screen.*) When the system is turned on, press the Delete key to enter BIOS Setup and configure the CPU speed.

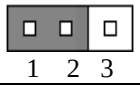
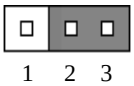
## 4.2 JP9: 100MHz CPU Host Frequency Force Selector

The MI7WBM is able to detect the host frequency (66MHz or 100MHz) of the installed CPU. The JP9 jumper, however, can be set to **OPEN** to override the detection and force the host frequency to run at 100MHz.

| JP9 | Function | JP9 | Function |
|---|---|---|---|
|  SHORT | Host Frequency Auto-detect (default) |  OPEN | Host Frequency set to **100MHz** |

## 4.3 JP10: Clear CMOS Select

Use JP10, a 3-pin header, to clear the contents of the CMOS RAM. Do not clear the CMOS RAM unless it is absolutely necessary. You will lose your password, etc.

| JP10 | Jumper Setting | Function |
|---|---|---|
|  1 2 3 | pin 1-2: short | Clear CMOS |
|  1 2 3 | pin 2-3: short | Normal |

To clear CMOS, the power connector should be disconnected from the motherboard.

## 4.4 JP7: Boot Block Lock/Unlock

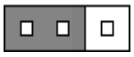
When the Boot Block is locked, BIOS flash update cannot be executed.

| JP7 | Function | JP7 | Function |
|---|---|---|---|
|  SHORT | Boot Block Unlock |  OPEN | Boot Block Lock |

## 4.5 JP8: Manufacturing Test Jumper

The 10-pin JP8 jumper is for manufacturing testing use only and should be left as is.

## 4.6 JP16: Onboard Audio Enable/Disable

| JP16 | Jumper Setting | Function |
|---|---|---|
|  1 2 3 | pin 1-2: short | Onboard Audio Disabled |
|  1 2 3 | pin 2-3: short | Onboard Audio Enabled |

## 4.7 JP17: Memory Clock Select

**For MI7WBM Series Ver. 1.00**
The MI7WBM comes with the JP17 memory clock select jumper. In case you are using 64MB NEC or LGS SDRAM module and the system does not boot, set JP17 to SHORT to delay the memory clock.

**For MI7WBM Series Ver. 1.20**
1. When only one DIMM slot is used, leave JP17 OPEN
2. When 2 DIMM slots are used, set JP17 to SHORT.
3. When using NEC DIMM modules, regardless one or two DIMM slots are used, JP17 should be set to SHORT.
4. When using CPU bus speed of 66MHz, leave JP17 OPEN.

***IMPORTANT NOTES:***
*1. If the memory module you are using is not included in our test report or is an 'unknown' brand, set JP17 to OPEN first. (It is recommended to use PC-100 compatible memory modules.) If the system does not boot, then set JP17 to short.*
*2. Regardless of the brand of memory module you are using, they must be PC-100 compatible modules.*
*3. In the BIOS setup on page 40, there is an option for the SDRAM cycle time. Its setting must meet the specification of your SDRAM module. Or else, the system might become unstable.*
*4. If your CPU uses 100MHz bus speed,* ***JP17 should be SHORT****.*

## 4.8 JP19: CPU Select

The JP19 2-pin jumper is used in conjunction with the processor installed on the motherboard. When the processor is an Intel Coppermine/Celeron processor with 128K cache, JP19 should be OPEN. For an Intel Coppermine processor with 256K cache, JP19 should be CLOSED/SHORT.

| JP19 | Function | JP19 | Function |
|---|---|---|---|
|  OPEN | Coppermine/ Celeron with 128K cache |  SHORT | Coppermine with 256K cache |

## 4.9 JP22, JP23: Celeron / Coppermine Select

The default setting of the JP22 and JP23 2-pin jumpers are SHORT, which setting is used for Intel Coppermine and Intel Celeron CPUs. However, for Intel Celeron processors with CPU ID 066X, JP22 and JP23 should be left OPEN.

The JP22 and JP23 jumpers can be found only in MI7WBM Series Ver. 1.20.

## 4.10 5VSB and VCC LEDs

The 5VSB LED light is on to indicate that there is suspend power signal from the power supply . The VCC LED light is on to indicate the power is on.

# Chapter 5 Installation

This chapter describes the interface that the MI7WBM provides for creating a working system. Refer to Figure 3 for the location of the connectors.

The following items are covered in this chapter:

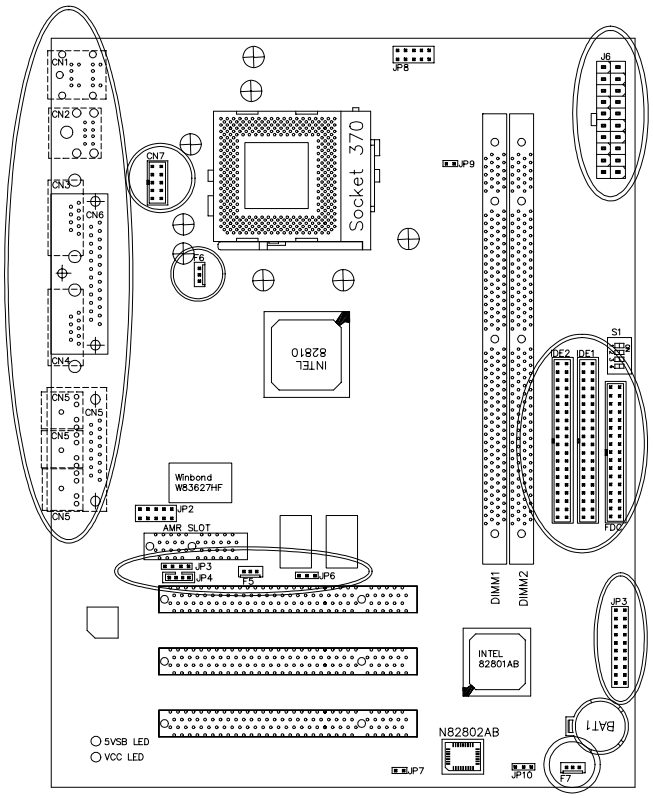



**Figure 3: Connector Location on the MI7WBM**

## 5.1 I/O Connectors

The I/O connectors connect the MI7WBM to the most common peripherals. To attach cables to these connectors, carefully align Pin 1 of the cables to that of the connectors. Refer to Figure 4 for the location and orientation of the connectors.

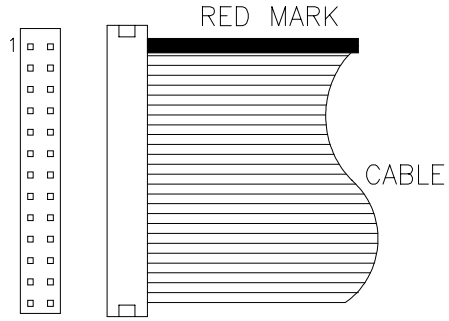
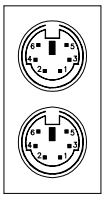



**Figure 4: Orientation of the I/O Connector**

## 5.2 CN1: PS/2 Keyboard and PS/2 Mouse Connectors

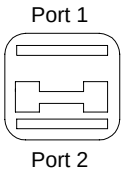



Below are the pin-out assignments of the connectors.

| Signal Name | Keyboard | Mouse | Signal Name |
|---|---|---|---|
| Keyboard data | 1 | 1 | Mouse data |
| N.C. | 2 | 2 | N.C. |
| GND | 3 | 3 | GND |
| 5V | 4 | 4 | 5V |
| Keyboard clock | 5 | 5 | Mouse clock |
| N.C. | 6 | 6 | N.C. |

## 5.3 CN2: USB Connector

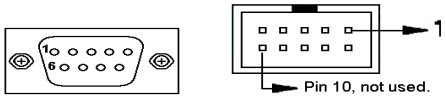
CN2 is the standard USB external connector consisting of two ports. USB support allows connections of up to 64 plug and play external peripherals per channel. The following table shows the pin outs of these ports.




| Pin # | Signal Name |
|---|---|
| 1 | Vcc |
| 2 | USB- |
| 3 | USB+ |
| 4 | Ground |

## 5.4 CN3, CN7: Serial Ports

The onboard serial ports are CN3, a DB-9 connector which is COM1 and CN7, a 10-pin header connector which is COM2. The following table shows the pin-out assignments of these connectors.

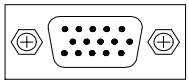



**COM1** **COM2**

| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| DCD, Data carrier detect | 1 | 6 | DSR, Data set ready |
| RXD, Receive data | 2 | 7 | RTS, Request to send |
| TXD, Transmit data | 3 | 8 | CTS, Clear to send |
| DTR, Data terminal ready | 4 | 9 | RI, Ring indicator |
| GND, ground | 5 | 10 | Not Used |

## 5.5 CN4: VGA Port Connector

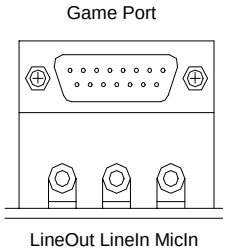
CN4 is a DB-15 VGA connector. The following table shows the pin-out assignments of this connector.



| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| Red | 1 | 2 | Green |
| Blue | 3 | 4 | N.C. |
| GND | 5 | 6 | GND |
| GND | 7 | 8 | GND |
| N.C. | 9 | 10 | GND |
| N.C. | 11 | 12 | N.C. |
| HSYNC | 13 | 14 | VSYNC |
| NC | 15 | | |

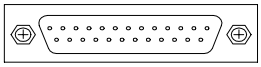
## 5.6 CN5: Line Out, Line In, Mic In, Game Port

CN5 is the connector consisting of audio line out, audio line in, microphone and game port.



## 5.7 CN6: Parallel Port Connector

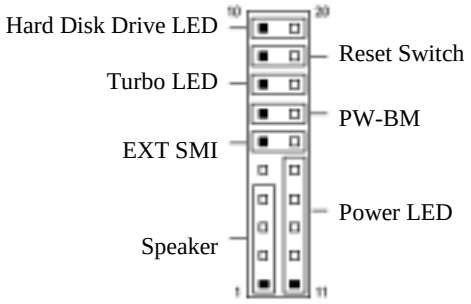
CN6 is a DB-25 external connector as seen in the previous figure. The following table describes the pin-out assignments of this connector.


CN6 Parallel Port

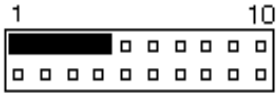
| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| Line printer strobe | 1 | 14 | AutoFeed |
| PD0, parallel data 0 | 2 | 15 | Error |
| PD1, parallel data 1 | 3 | 16 | Initialize |
| PD2, parallel data 2 | 4 | 17 | Select |
| PD3, parallel data 3 | 5 | 18 | Ground |
| PD4, parallel data 4 | 6 | 19 | Ground |
| PD5, parallel data 5 | 7 | 20 | Ground |
| PD6, parallel data 6 | 8 | 21 | Ground |
| PD7, parallel data 7 | 9 | 22 | Ground |
| ACK, acknowledge | 10 | 23 | Ground |
| Busy | 11 | 24 | Ground |
| Paper empty | 12 | 25 | Ground |
| Select | 13 | N/A | N/A |

## 5.8 CN8: Front Bezel Connectors

The front bezel of the case has a control panel which provides light indication of the computer activities and switches to change the computer status. CN8 is a 20-pin header that provides interfaces for the following functions.



**Speaker: Pins 1 - 4**
This connector provides an interface to a speaker for audio tone generation. An 8-ohm speaker is recommended.

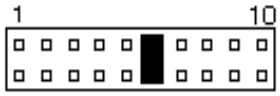



| Pin # | Signal Name |
|---|---|
| 1 | Speaker out |
| 2 | No connect |
| 3 | Ground |
| 4 | +5V |

**Power LED: Pins 11 - 15**
The power LED indicates the status of the main power switch.

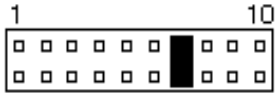

| Pin # | Signal Name |
|---|---|
| 11 | Power LED |
| 12 | No connect |
| 13 | Ground |
| 14 | No connect |
| 15 | Ground |

**EXT SMI: Pins 6 and 16**
This 2-pin connector is for the "Green Switch" on the control panel, which, when pressed, will force the system immediately into the power saving (sleep) mode.

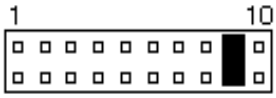



| Pin # | Signal Name |
|---|---|
| 7 | Sleep |
| 17 | Ground |

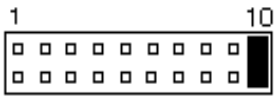
**PW-BM: Pins 7 and 17**
This 2-pin connector is an "ATX Power Supply On/Off Switch" on the motherboard that connects to the power switch on the case. When pressed, the power switch will force the motherboard to power on. When pressed again, it will force the motherboard to power off.



**Reset Switch: Pins 9 and 19**
The reset switch allows the user to reset the system without turning the main power switch off and then on again. Orientation is not required when making a connection to this header.



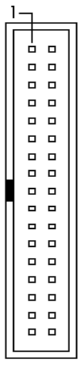

**Hard Disk Drive LED Connector: Pins 10 and 20**
This connector connects to the hard drive activity LED on control panel. This LED will flash when the HDD is being accessed.




| Pin # | Signal Name |
|---|---|
| 10 | HDD LED |
| 20 | 5V |

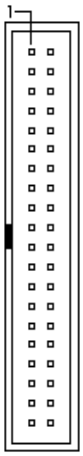
## 5.9 FDC: Floppy Drive Connector

FDC of the MI7WBM is a 34-pin header and will support up to 2.88MB floppy drives. The following table shows its pin-out assignments.



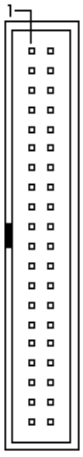

| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| Ground | 1 | 2 | RM/LC |
| Ground | 3 | 4 | No connect |
| Ground | 5 | 6 | No connect |
| Ground | 7 | 8 | Index |
| Ground | 9 | 10 | Motor enable 0 |
| Ground | 11 | 12 | Drive select 1 |
| Ground | 13 | 14 | Drive select 0 |
| Ground | 15 | 16 | Motor enable 1 |
| Ground | 17 | 18 | Direction |
| Ground | 19 | 20 | Step |
| Ground | 21 | 22 | Write data |
| Ground | 23 | 24 | Write gate |
| Ground | 25 | 26 | Track 00 |
| Ground | 27 | 28 | Write protect |
| Ground | 29 | 30 | Read data |
| Ground | 31 | 32 | Side 1 select |
| Ground | 33 | 34 | Diskette change |

## 5.10 IDE1, IDE2: EIDE Connectors



**IDE1: Primary IDE Connector**

| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| Reset IDE | 1 | 2 | Ground |
| Host data 7 | 3 | 4 | Host data 8 |
| Host data 6 | 5 | 6 | Host data 9 |
| Host data 5 | 7 | 8 | Host data 10 |
| Host data 4 | 9 | 10 | Host data 11 |
| Host data 3 | 11 | 12 | Host data 12 |
| Host data 2 | 13 | 14 | Host data 13 |
| Host data 1 | 15 | 16 | Host data 14 |
| Host data 0 | 17 | 18 | Host data 15 |
| Ground | 19 | 20 | Key |
| DRQ0 | 21 | 22 | Ground |
| Host IOW | 23 | 24 | Ground |
| Host IOR | 25 | 26 | Ground |
| IOCHRDY | 27 | 28 | Host ALE |
| DACK0 | 29 | 30 | Ground |
| IRQ14 | 31 | 32 | No connect |
| Address 1 | 33 | 34 | UDMA66 Enable |
| Address 0 | 35 | 36 | Address 2 |
| Chip select 0 | 37 | 38 | Chip select 1 |
| Activity | 39 | 40 | Ground |

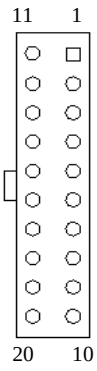


**IDE2: Secondary IDE Connector**

| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| Reset IDE | 1 | 2 | Ground |
| Host data 7 | 3 | 4 | Host data 8 |
| Host data 6 | 5 | 6 | Host data 9 |
| Host data 5 | 7 | 8 | Host data 10 |
| Host data 4 | 9 | 10 | Host data 11 |
| Host data 3 | 11 | 12 | Host data 12 |
| Host data 2 | 13 | 14 | Host data 13 |
| Host data 1 | 15 | 16 | Host data 14 |
| Host data 0 | 17 | 18 | Host data 15 |
| Ground | 19 | 20 | Key |
| DRQ0 | 21 | 22 | Ground |
| Host IOW | 23 | 24 | Ground |
| Host IOR | 25 | 26 | Ground |
| IOCHRDY | 27 | 28 | Host ALE |
| DACK1 | 29 | 30 | Ground |
| MIRQ0 | 31 | 32 | No connect |
| Address 1 | 33 | 34 | UDMA66 Enable |
| Address 0 | 35 | 36 | Address 2 |
| Chip select 0 | 37 | 38 | Chip select 1 |
| Activity | 39 | 40 | Ground |

## 5.11 J6: ATX Power Supply Connector

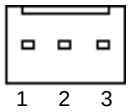
J6 is a 20-pin ATX power supply connector. Refer to the following table for the pin out assignments.




| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| 3.3V | 11 | 1 | 3.3V |
| -12V | 12 | 2 | 3.3V |
| Ground | 13 | 3 | Ground |
| PS-ON | 14 | 4 | +5V |
| Ground | 15 | 5 | Ground |
| Ground | 16 | 6 | +5V |
| Ground | 17 | 7 | Ground |
| -5V | 18 | 8 | Power good |
| +5V | 19 | 9 | 5VSB |
| +5V | 20 | 10 | +12V |

## 5.12 F5: Chip Fan Power Connector

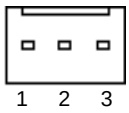
The F5 chip fan power connector is a 3-pin header supporting a 12V fan.




| Pin # | Signal Name |
|---|---|
| 1 | N. C. |
| 2 | +12V |
| 3 | Ground |

## 5.13 F6: CPU Fan Power Connector

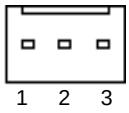
F6 CPU fan power connector is a 3-pin header supporting a 12V fan.




| Pin # | Signal Name |
|---|---|
| 1 | Rotation |
| 2 | +12V |
| 3 | Ground |

## 5.14 F7: Chassis Fan Power Connector

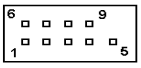
The F7 chassis fan power connector is a 3-pin header for a 12V fan.




| Pin # | Signal Name |
|---|---|
| 1 | Rotation |
| 2 | +12V |
| 3 | Ground |

## 5.15 JP2: IrDA Connector

This connector is used for an IrDA connector that supports infrared wireless communication.



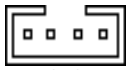
JP2

| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| +5V | 1 | 6 | N.C. |
| N.C. | 2 | 7 | CIRRX |
| Ir RX | 3 | 8 | 5VSB |
| Ground | 4 | 9 | N.C. |
| Ir TX | 5 | | |

## 5.16 JP3, JP4: CD-ROM Audio In Connectors

JP3 and JP4 are the onboard CD-ROM audio in connectors. Below are their pin assignments.

JP3



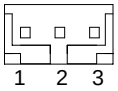
JP4

| Signal Name | Pin # | Pin # | Signal Name |
|---|---|---|---|
| Left | 1 | 1 | Ground |
| Ground | 2 | 2 | Left |
| Ground | 3 | 3 | Ground |
| Right | 4 | 4 | Right |

For better audio quality, it is recommended that these connectors are not used. Rather, enable the Digital Audio in the CD Audio folder in Windows 95/98. To go to this folder, click Start →Settings → Control Panel → Multimedia.

## 5.17 JP5: Wake on LAN Connector

JP5 is a 3-pin header for the Wake on LAN function on the motherboard. The following table shows the pin out assignments of this connector. Wake on LAN will function properly only with an ATX power supply with 5VSB that has 200mA.




| Pin # | Signal Name |
|---|---|
| 1 | +5VSB |
| 2 | Ground |
| 3 | Wake on LAN |

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# Chapter 6 BIOS Configuration

This chapter describes the different settings available in the Award BIOS. The topics covered in this chapter are as follows:

## 6.1 BIOS Introduction

The Award BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel Celeron processors. The BIOS provides critical low-level support for a standard device such as disk drives, serial and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

## 6.2 BIOS Setup

The Award BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the Award BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

```
Press <DEL> to Enter Setup
```

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

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| | |
|---|---|
| **Standard CMOS Features** | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | Set Supervisor Password |
| Power Management Setup | Set User Password |
| PnP/PCI Configurations | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| ESC : Quit | ↑ ↓ → ← : Select Item |
| F10 : Save & Exit Setup | |
| Time, Date, Hard Disk Type… | |

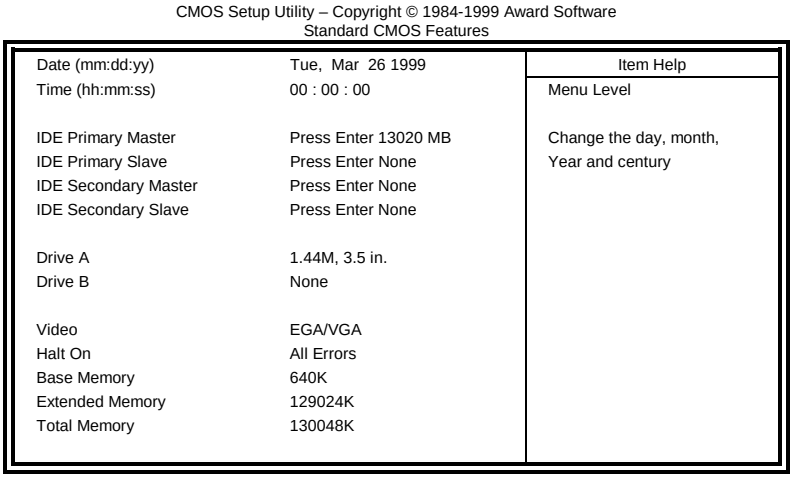
The section below the setup items of the Main Menu displays the control keys for this menu. At the bottom of the Main Menu just below the control keys section, there is another section which displays information on the currently highlighted item in the list.

*NOTE: If your computer cannot boot after making and saving system changes with Setup, the Award BIOS supports an override to the CMOS settings that resets your system to its default.*

*We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.*

## 6.3 Standard CMOS Setup

"Standard CMOS Setup" choice allows you to record some basic hardware configurations in your computer system and set the system clock and error handling. If the motherboard is already installed in a working system, you will not need to select this option. You will need to run the Standard CMOS option, however, if you change your system hardware configurations, the onboard battery fails, or the configuration stored in the CMOS memory was lost or damaged.




At the bottom of the menu are the control keys for use on this menu. If you need any help in each item field, you can press the <F1> key. It will display the relevant information to help you. The memory display at the lower right-hand side of the menu is read-only. It will adjust automatically according to the memory changed. The following describes each item of this menu.

**Date**

The date format is:

| | |
|---|---|
| **Day :** | **Sun to Sat** |
| **Month :** | **1 to 12** |
| **Date :** | **1 to 31** |
| **Year :** | **1994 to 2079** |

To set the date, highlight the "Date" field and use the PageUp/ PageDown or +/- keys to set the current time.

**Time**

The time format is: **Hour : 00 to 23**
**Minute : 00 to 59**
**Second : 00 to 59**

To set the time, highlight the "Time" field and use the <PgUp>/ <PgDn> or +/- keys to set the current time.

**IDE Primary HDDs / IDE Secondary HDDs**

The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks; the first is the "Master" and the second is the "Slave".

Press <Enter> to configure the hard disk. The selections include Auto, Manual, and None. Select 'Manual' to define the drive information manually. You will be asked to enter the following items.

| | |
|---|---|
| **CYLS :** | Number of cylinders |
| **HEAD :** | Number of read/write heads |
| **PRECOMP :** | Write precompensation |
| **LANDZ :** | Landing zone |
| **SECTOR :** | Number of sectors |

The Access Mode selections are as follows:

| | |
|---|---|
| Auto | |
| Normal | (HD < 528MB) |
| Large | (for MS-DOS only) |
| LBA | (HD > 528MB and supports Logical Block Addressing) |

**Drive A / Drive B**

These fields identify the types of floppy disk drive A or drive B that has been installed in the computer. The available specifications are:

| 360KB | 1.2MB | 720KB | 1.44MB | 2.88MB |
|---|---|---|---|---|
| 5.25 in. | 5.25 in. | 3.5 in. | 3.5 in. | 3.5 in. |

**Video**

This field selects the type of video display card installed in your system. You can choose the following video display cards:

| | |
|---|---|
| EGA/VGA | For EGA, VGA, SEGA, SVGA or PGA monitor adapters. (default) |
| CGA 40 | Power up in 40 column mode. |
| CGA 80 | Power up in 80 column mode. |
| MONO | For Hercules or MDA adapters. |

**Halt On**

This field determines whether or not the system will halt if an error is detected during power up.

| | |
|---|---|
| No errors | The system boot will not be halted for any error that may be detected. |
| All errors | Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted. |
| All, But Keyboard | The system boot will not be halted for a keyboard error; it will stop for all other errors |
| All, But Diskette | The system boot will not be halted for a disk error; it will stop for all other errors. |
| All, But Disk/Key | The system boot will not be halted for a keyboard or disk error; it will stop for all others. |

## 6.4 Advanced BIOS Features

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

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Advanced BIOS Features

| | | |
|---|---|---|
| Virus Warning | **Disabled** | ITEM HELP |
| CPU Internal Cache | Enabled | Menu Level |
| External Cache | Enabled | |
| CPU L2 Cache ECC Checking | Enabled | Allows you choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep |
| Quick Power On Self Test | Enabled | |
| First Boot Device | Floppy | |
| Second Boot Device | HDD-0 | |
| Third Boot Device | LS/ZIP | |
| Boot Other Device | Enabled | |
| Swap Floppy Drive | Disabled | |
| Boot Up Floppy Seek | Disabled | |
| Boot Up Numlock Status | On | |
| Gate A20 Option | Fast | |
| Typematic Rate Setting | Disabled | |
| Typematic Rate (chars/Sec) | 6 | |
| Typematic Delay (Msec) | 250 | |
| Security Option | Setup | |
| OS Select For DRAM>64MB | Non-OS2 | |
| Report No FDD For WIN 95 | Yes | |

**Virus Warning**

This item protects the boot sector and partition table of your hard disk against accidental modifications. If an attempt is made, the BIOS will halt the system and display a warning message. If this occurs, you can either allow the operation to continue or run an anti-virus program to locate and remove the problem.

***NOTE:*** *Many disk diagnostic programs, which attempt to access the boot sector table, can cause the virus warning. If you will run such a program, disable the Virus Warning feature.*

**CPU Internal Cache / External Cache**

Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. These items allow you to enable (speed up memory access) or disable the cache function. By default, these items are ***Enabled***.

**CPU L2 Cache ECC Checking**

This field enables or disables the ECC (Error Correction Checking) checking of the CPU level-2 cache. The default setting is ***Enabled***.

**Quick Power On Self Test**
When enabled, this field speeds up the Power On Self Test (POST) after the system is turned on. If it is set to *Enabled*, BIOS will skip some items.

**First/Second/Third Boot Device**
These fields determine the drive that the system searches first for an operating system. The options available include *Floppy*, *LS/ZIP*, *HDD-0*, *SCSI*, *CDROM*, *HDD-1*, *HDD-2*, *HDD-3*, *LAN* and *Disable*.

**Boot Other Device**
These fields allow the system to search for an operating system from other devices other than the ones selected in the First/Second/Third Boot Device.

**Swap Floppy Drive**
This item allows you to determine whether or not to enable Swap Floppy Drive. When enabled, the BIOS swaps floppy drive assignments so that Drive A becomes Drive B, and Drive B becomes Drive A. By default, this field is set to ***Disabled.***

**Boot Up Floppy Seek**
When enabled, the BIOS will seek whether or not the floppy drive installed has 40 or 80 tracks. 360K type has 40 tracks while 760K, 1.2M and 1.44M all have 80 tracks.

**Boot Up NumLock Status**
This allows you to activate the NumLock function after you power up the system.

**Gate A20 Option**
This field allows you to select how Gate A20 is worked. Gate A20 is a device used to address memory above 1 MB.

**Typematic Rate Setting**
When disabled, continually holding down a key on your keyboard will generate only one instance. When enabled, you can set the two typematic controls listed next. By default, this field is set to ***Disabled.***

**Typematic Rate (Chars/Sec)**
When the typematic rate is enabled, the system registers repeated keystrokes speeds. Settings are from 6 to 30 characters per second.

**Typematic Delay (Msec)**
When the typematic rate is enabled, this item allows you to set the time interval for displaying the first and second characters. By default, this item is set to ***250msec.***

**Security Option**
This field allows you to limit access to the System and Setup. The default value is ***Setup***. When you select *System*, the system prompts for the User Password every time you boot up. When you select *Setup*, the system always boots up and prompts for the Supervisor Password only when the Setup utility is called up.

**OS Select for DRAM > 64MB**
This option allows the system to access greater than 64MB of DRAM memory when used with OS/2 that depends on certain BIOS calls to access memory. The default setting is ***Non-OS/2***.

**Report No FDD for Win95**
This field has a default setting of ***Yes***.

## 6.5 Advanced Chipset Features

This Setup menu controls the configuration of the motherboard chipset.

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Advanced Chipset Features

| | | ITEM HELP |
|---|---|---|
| SDRAM CAS Latency Time | Auto | Menu Level |
| SDRAM Cycle Time Tras/Trc | 6/8 | |
| SDRAM RAS-to-CAS Delay | 3 | |
| SDRAM RAS Precharge Time | 3 | |
| System BIOS Cacheable | Enabled | |
| Video BIOS Cacheable | Enabled | |
| Memory Hole At 15M-16M | Disabled | |
| CPU Latency Timer | Enabled | |
| Delayed Transaction | Enabled | |
| On-Chip Video Window Size | 64MB | |
| * Onboard Display Cache Setting * | | |
| CAS# Latency | 3 | |
| Paging Mode Control | Open | |
| RAS-to-CAS Override | By CAS# LT | |
| RAS# Timing | Fast | |
| RAS# Precharge Timing | Fast | |

**SDRAM CAS Latency Time**
You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU. The choices are ***Auto***, ***2*** and ***3***.

**SDRAM Cycle Time Tras/Trc**
The settings available for the SDRAM Cycle Time Tras/Trc are *6/8* and *5/7*. The default setting is ***6/8***.

**SDRAM RAS-to-CAS Delay**
You can select RAS to CAS Delay time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU. The choices are ***2*** and ***3***.

**SDRAM RAS Precharge Time**
This option defines the length of time for Row Address Strobe is allowed to precharge. The choices are ***2*** and ***3***.

**System BIOS Cacheable**
The setting of *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.

**Video BIOS Cacheable**
The Setting *Enabled* allows caching of the video BIOS ROM at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

**Memory Hole At 15M-16M**
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. The choices are *Enabled* and *Disabled*.

**CPU Latency Timer**
This field enable or disable the CPU latency timer. The default setting is ***Enabled***.

**Delayed 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.

**On-Chip Video Window Size**
The setting choices for the On-Chip Video Window Size are *64MB* and *32MB*. By default, this option is set to ***64MB***.

**Onboard Display Cache Setting**
The default setting and optional setting for the onboard display cache functions are as follows:

| | |
|---|---|
| CAS# Latency | 3(default), 2(option) |
| Paging Mode Control | Open (default), Close (option) |
| RAS-to-CAS Override | by CAS# LT (default), Override (2)(option) |
| RAS# Timing | Fast (default), Slow (option) |
| RAS# Precharge Timing | Fast (default), Slow (option) |

## 6.6 Integrated Peripherals

This section sets configurations for your hard disk and other integrated peripherals.

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Advanced Chipset Features

| | | |
|---|---|---|
| On-Chip Primary PCI IDE | Enabled | ITEM HELP |
| On-Chip Secondary PCI IDE | Enabled | Menu Level |
| IDE Primary Master PIO | Auto | |
| IDE Primary Slave PIO | Auto | |
| IDE Secondary Master PIO | Auto | |
| IDE Secondary Slave PIO | Auto | |
| IDE Primary Master UDMA | Auto | |
| IDE Primary Slave UDMA | Auto | |
| IDE Secondary Master UDMA | Auto | |
| IDE Secondary Slave UDMA | Auto | |
| USB Controller | Enabled | |
| USB Keyboard Support | Disabled | |
| Init Display First | PCI Slot | |
| AC97 Audio | Enabled | |
| AC97 Modem | Disabled | |
| IDE Block Mode | Enabled | |
| POWER ON Function | Button Only | |
| KB Power ON Password | Enter | |
| Hot Key Power ON | Ctrl-F1 | |
| Onboard FDC Controller | Enabled | |
| Onboard Serial Port 1 | 3F8/IRQ4 | |
| Onboard Serial Port 2 | 2F8/IRQ3 | |
| UART Mode Select | Normal | |
| RxD, TxD Active | Hi, Lo | |
| IR Transmission Delay | Enabled | |
| UR2 Duplex Mode | Half (Full) | |
| Use IR Pins | IR, Rx2Tx2 | |
| Onboard Parallel Port | 378/IRQ7 | |
| Parallel Port Mode | SPP | |
| EPP Mode Select | EPP1.7 | |
| ECP Mode Use DMA | 3 | |
| PWRON After PWR-Fail | Off | |
| Game Port Address | 201 | |
| Midi Port Address | 330 | |
| Midi Port IRQ | 10 | |

**OnChip Primary/Secondary PCI IDE**

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate the channels.

**IDE Primary/Secondary Master/Slave PIO**

These fields allow your system hard disk controller to work faster. Rather than have the BIOS issue a series of commands that transfer to or from the disk drive, PIO (Programmed Input/Output) allows the BIOS to communicate with the controller and CPU directly.

The system supports five modes, numbered from 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode.

**IDE Primary/Secondary Master/Slave UDMA**
These fields allow your system to improve disk I/O throughput to 66Mb/sec with the Ultra DMA/66 feature. The options are *Auto* and *Disabled*.

**USB Controller**
The options for this field are *Enabled* and *Disabled*. By default, this field is set to ***Enabled***.

**USB Keyboard Support**
By default, the USB Keyboard Support field is set to ***Disabled***.

**Init Display First**
This field allows the system to initialize first the VGA card on chip or the display on the PCI Slot. By default, the *PCI Slot* VGA is initialized first.

**AC97 Audio**
By default, the AC97 Audio is set to ***Enabled***.

**AC97 Modem**
By default, the AC97 Modem is set to ***Disabled***.

**IDE HDD Block Mode**
This field allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive.

**POWER ON Function**
This field allows powering on by the following methods:

| | |
|---|---|
| Password | Keyboard 98 |
| Hot KEY | BUTTON ONLY |

**Onboard FDD Controller**
Select *Enabled* if your system has a floppy disk controller (FDC) installed on the motherboard and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field. This option allows you to select the onboard FDD port.

**Onboard Serial/Parallel Port**
These fields allow you to select the onboard serial and parallel ports and their addresses. The default values for these ports are:

| | |
|---|---|
| Serial Port 1 | 3F8/IRQ4 |
| Serial Port 2 | 2F8/IRQ3 |
| Parallel Port | 378H/IRQ7 |

**UART Mode Select**
This field determines the UART mode in your computer. The default value is ***Normal***. Other options include *IrDA* and *ASKIR*.

**Onboard Parallel Port**
The setting for this field are *378/IRQ7*, *278/IRQ5*, *2BC/IRA7* and *Disabled*. By default, the onboard parallel port is set to ***378/IRQ7***.

**Onboard Parallel Port**
The setting for this field are *378/IRQ7*, *278/IRQ5*, *2BC/IRA7* and *Disabled*. By default, the onboard parallel port is set to ***378/IRQ7***.

**RxD, TxD Active**
The settings for this field are *Hi,Lo, Lo,Hi, Lo,Lo,* and *Hi,Hi*.

**IR Transmission Delay**
By default, this field is set to ***Enabled***.

**UR2 Duplex Mode**
The settings available for this field are *Half* (default) and *Full.*

**Use IR Pins**
The settings for this field are *IR, Rx2Tx2* (default) and *RxD2, TxD2*.

**PWRON After PW-Fail**
In case of power failure, the system can be configured to power on or to remain off when the power returns. These two settings are ***Former-Sts*** and ***Off*** respectively. The default setting for this field is ***Off***.

**Game Port Address**
The settings for this field are *201* (default), *209* and *Disabled*.

**Midi Port Address**
The option settings for this field are *330, 300, 290* and *Disabled*. The default setting is ***330***.

**Midi Port IRQ**
The option settings for this field are *5* and *7*. The default setting is ***7***.

## 6.7 Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It can shut down devices after a period of inactivity.

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Power Management Setup

| | | |
|---|---|---|
| ACPI Function | Enabled | ITEM HELP |
| ACPI Suspend Type | S1 (POS) | Menu Level |
| Power Management | User Define | |
| Video Off Method | DPMS | |
| Video Off In Suspend | Yes | |
| Suspend Type | Stop Grant | |
| Modem Use IRQ | 3 | |
| Suspend Mode | Disabled | |
| HDD Power Down | Disabled | |
| Soft-Off by PWR-BTTN | Instant-Off | |
| Wake-Up by PCI Card | Disabled | |
| PW On by Modem/LAN | Enabled | |
| CPU Thermal-Throttling | 62.5% | |
| Resume by Alarm | Disabled | |
| Date (of Month) Alarm | 0 | |
| Time (hh:mm:ss) Alarm | 0 | |
| | | |
| ** Reload Global Timer Events ** | | |
| Primary IDE 0 | Disabled | |
| Primary IDE 1 | Disabled | |
| Secondary IDE 0 | Disabled | |
| Secondary IDE 1 | Disabled | |
| FDD, COM, LPT Port | Disabled | |
| PCI PIRQ[A-D] # | Disabled | |

**ACPI Function**
This field allows you to enabled or disable the ACPI function on the motherboard. By default, this field is set to ***Disabled***.

**ACPI Suspend Type**
The options for the ACPI Suspend Type field are *S1(POS)* and *S3(STR)*. The default setting for this field is ***S1(POS)***.
*Note: The S3(STR) hardware is optional.*

**Power Management**
This field allows you to select the type of power saving management modes. There are four selections for Power Management.

| | |
|---|---|
| Min. Power Saving | Minimum power management |
| Max. Power Saving | Maximum power management. |
| User Define | Each of the ranges is from 1 min. to 1hr. Except for HDD Power Down which ranges from 1 min. to 15 min. (Default) |

**Video Off Method**

This field defines the Video Off features. There are three options.

| | |
|---|---|
| V/H SYNC + Blank | Default setting, blank the screen and turn off vertical and horizontal scanning. |
| DPMS | Allows the BIOS to control the video display card if it supports the DPMS feature. |
| Blank Screen | This option only writes blanks to the video buffer. |

**Video Off in Suspend**

When enabled, the video is off in suspend mode. The default setting is ***Yes***.

**Suspend Type**

The settings for this field are *Stop Grant* (default) and *PwrOn Suspend*.

**Modem Use IRQ**

This field sets the IRQ used by the Modem. By default, the IRQ used is ***3***.

**Suspend Mode**

When enabled, and after the set time of system inactivity, all devices except the CPU will be shut off.

**HDD Power Down**

When enabled, and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

**Soft-Off by PWRBTN**

This field defines the power-off mode when using an ATX power supply. The *Instant Off* mode allows powering off immediately upon pressing the power button. In the *Delay 4 Sec* mode, the system powers off when the power button is pressed for more than four seconds or enters the suspend mode when pressed for less than 4 seconds. The default value is ***Instant Off***.

**Wake-Up by PCI Card**

The settings for this field are *Enabled* and *Disabled* (default).

**PW On by Modem/LAN**

This field enables or disables the power on of the system through the modem connected to the serial port or LAN.

**CPU Thermal-Throttling**
The CPU Thermal Throttling function, by default, is set to 62.5%

**Resume by Alarm**
This field enables or disables the resumption of the system operation. When enabled, the user is allowed to set the *Date* and *Time*.

**Reload Global Timer Events**
The HDD, FDD, COM, LPT Ports, and PCI PIRQ are I/O events which can prevent the system from entering a power saving mode or can awaken the system from such a mode. 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.

## 6.8 PNP/PCI Configurations

This option configures the PCI bus system. All PCI bus systems on the system use INT#, thus all installed PCI cards must be set to this value.

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PnP/PCI Configurations

| | | |
|---|---|---|
| Reset Configuration Data | Disabled | ITEM HELP |
| | | Menu Level |
| Resources Controlled By | Auto (ESCD) | |
| IRQ Resources | Press Enter | Default is 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 OS cannot boot |
| PCI/VGA Palette Snoop | Disabled | |

**Reset Configuration Data**
This field allows you to determine whether to reset the configuration data or not. The default value is ***Disabled.***

**Resources Controlled By**
The settings for this field are *Auto (ESCD)* (default) and *Manual*.

**IRQ Resources**
To configure the IRQ Resources, the *Resource Controlled By* field should be set to *Manual*.

**PCI/VGA Palette Snoop**
Some non-standard VGA display cards may not show colors properly. This field allows you to set whether or not MPEG ISA/VESA VGA Cards can work with PCI/VGA. When this field is enabled, a PCI/VGA can work with an MPEG ISA/VESA VGA card. When this field is disabled, a PCI/VGA cannot work with an MPEG ISA/VESA Card.

## 6.9 PC Health Status

This section shows the parameters in determining the PC Health Status. These parameters include temperatures, fan speeds and voltages.

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PC Health Status

| | | ITEM HELP |
|---|---|---|
| CPU Warning Temperature | 66°C/151°F | |
| Current System Temp. | 32°C/89°F | |
| Current CPU Temperature | 38°C/100°F | |
| Current CPUFAN Speed | 4470 RPM | |
| Current AMR/PCI Speed | 0 RPM | |
| Current Chassis FAN Speed | 0 RPM | |
| VCCP(V) | 1.98 V | |
| +1.8V(V) | 1.76 V | |
| +3.3V (V) | 3.34 V | |
| + 5 V | 4.97 V | |
| +12 V | 11.91V | |
| -12 V | 12.03V | |
| - 5 V | 5.04 V | |
| VBAT (V) | 3.50 V | |
| 5VSB (V) | 5.29 V | |
| Shutdown Temperature | 75°C/167°F | |

**Temperatures/Fan Speeds/Voltages**
These fields are the parameters of the hardware monitoring function feature of the motherboard. The values are read-only values as monitored by the system and show the PC health status.

**Shutdown Temperature**
This field allows the user to set the temperature by which the system automatically shuts down once the threshold temperature is reached. This function can help damage to the system that is caused by overheating.

## 6.10 Frequency/Voltage Control

This section shows the user how to configure the key components.

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Frequency/Voltage Control

| | | |
|---|---|---|
| Auto Detect DIMM/PCI Clk | Disabled | ITEM HELP |
| Spread Spectrum | Disabled | Menu Level |
| Host CPU/PCI Clock | Default | |
| CPU Clock Ratio | X3 | |

**Auto Detect DIMM/PCI Clk**
The settings for this field are *Enabled* and *Disabled* (default).

**Spread Spectrum**
This field sets the value of the spread spectrum. The default setting is ***Disabled***. This field is for CE testing use only.

**Host CPU/PCI Clock**
The Host CPU/PCI Clock has a default setting of ***Default*** which is either 66/33MHz or 100/33MHz as automatically detected by the system. The options are as follows: For CPU with 66MHz FSB, the options are *66/33MHz* (Default), 75*/37MHz*, and 80*/40 MHz*. For CPU with 100MHz FSB, options are *100/33MHz* (Default), *112/37MHz*, *117/39MHz*, *129/43MHz*, *133/33MHz*, *138/46MHz*, *140/35MHz*, 150/37*MHz*, *166/41MHz*, *180/30MHz*, *190/31MHz* and *200/33MHz*.

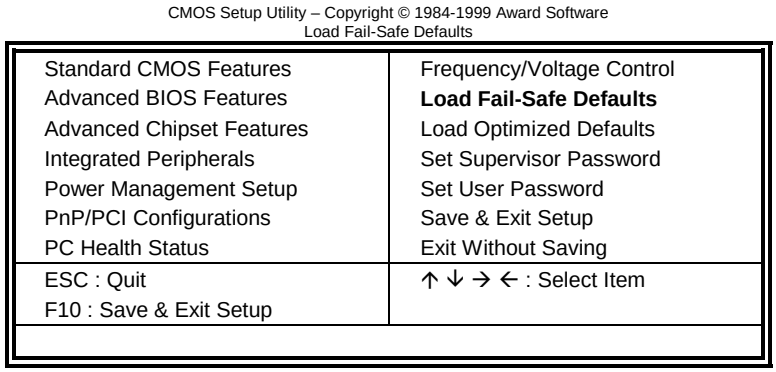
***NOTE****: Overclocking could cause the system not to boot. When this happens, turn off the computer by pressing the power button and turn it on again by pressing the* ***Insert*** *key and the power button simultaneously. Then press the* ***Delete*** *key to enter BIOS Setup and configure the CPU speed.*

**CPU Clock Ratio**
The CPU Ratio, also known as the CPU bus speed multiplier, can be configured as *3*, *3.5*, *4*, *4.5*, *5*, *5.5*, *6*, *6.5*, *7*, *7.5*, and *8*.

The above setup is for Intel 810E chipset use only. For motherboards with Intel 810 (MI6WBML), the options for Spread Spectrum and Host CPU/PCI Clock are not available. An extra option is the **CPU Clock/SpreadSpectrum**. The setting for the CPU Clock is 66MHz~150MHz, while the settings for Spread Spectrum are off and on.

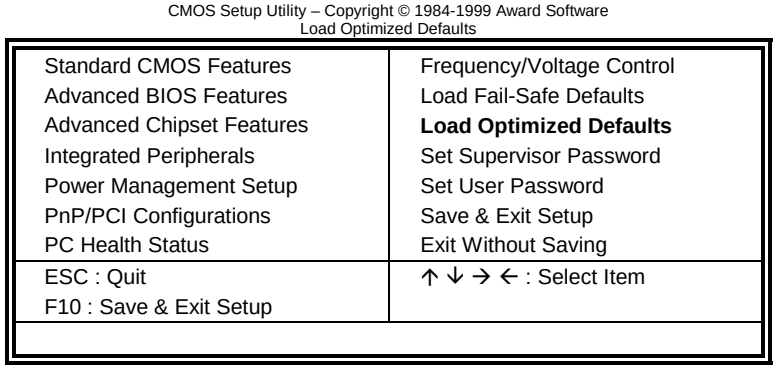
## 6.11 Load Fail-Safe Defaults

This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disable all high-performance features.




## 6.12 Load Setup Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.



## 6.13 Set Supervisor/User Password

These two options set the system password. Supervisor Password sets a password that will be used to protect the system and Setup utility. User Password sets a password that will be used exclusively on the system. To specify a password, highlight the type you want and press <Enter>. The Enter Password: message prompts on the screen. Type the password, up to eight characters in length, and press <Enter>. The system confirms your password by asking you to type it again. After setting a password, the screen automatically returns to the main screen.

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

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| | |
|---|---|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | **Set Supervisor Password** |
| Power Management Setup | **Set User Password** |
| PnP/PCI Configurations | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| ESC : Quit | ↑ ↓ → ← : Select Item |
| F10 : Save & Exit Setup | |
| | |

## 6.14 Save & Exit Setup

This option allows you to determine whether or not to accept the modifications. If you type "Y", you will quit the setup utility and save all changes into the CMOS memory. If you type "N", you will return to Setup utility.

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Save & Exit Setup

| | |
|---|---|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | Set Supervisor Password |
| Power Management Setup | Set User Password |
| PnP/PCI Configurations | **Save & Exit Setup** |
| PC Health Status | Exit Without Saving |
| ESC : Quit | ↑ ↓ → ← : Select Item |
| F10 : Save & Exit Setup | |

## 6.15 Exit Without Saving

Select this option to exit the Setup utility without saving the changes you have made in this session. Typing "Y" will quit the Setup utility without saving the modifications. Typing "N" will return you to Setup utility.

CMOS Setup Utility – Copyright © 1984-1999 Award Software
Exit Without Saving

| | |
|---|---|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | Set Supervisor Password |
| Power Management Setup | Set User Password |
| PnP/PCI Configurations | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| ESC : Quit | ↑ ↓ → ← : Select Item |
| F10 : Save & Exit Setup | |

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# Chapter 7 Intel 810 Drivers Installation

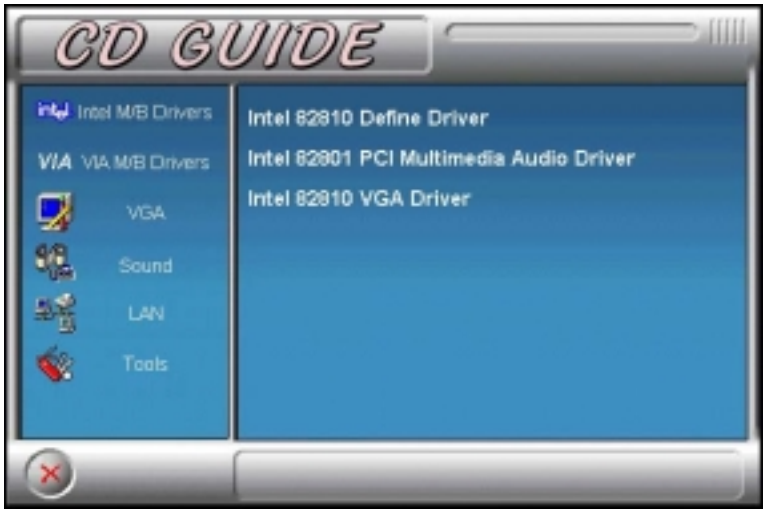
This chapter describes the installation of the drivers in conjunction with the Intel 82810 chipset. The topics covered in this chapter include:

### Installing Intel 82810 Define Drivers for Windows 95/98

1. After you have installed Windows 95/98, install the Intel 82810 define drivers. Insert the driver CD provided with the motherboard. Once it is inserted, the following screen appears.


2. Click **Intel M/B Drivers** and the following screen appears.

3. Click **Intel 82810 Driver**, then **Intel 82810 Define Driver** and the welcome screen appears.




4. Click **Next** and **Next** to start copying files. After the installation is done, click **Finish** to restart the computer.

5. When Windows restarts, the Add New Hardware Wizard screen would appear as Windows searches the driver for Intel® 82802 firmware Hub Device. Click **Next** to "search for the best driver for the device". Click **Next** again for Windows to start searching for the driver. The Insert Disk screen will appear and prompt you to enter the path of the file **iFWH.cat**. The file is located in the **i810cat** subdirectory under the Windows directory. (You may click on **Browse** to find the correct path.) When the correct path is entered and the files are copied, click **Finish**.

6. At this stage, the Add New Hardware Wizard searches for the drivers for *Intel 82810 DC-100 System and Graphics Controller*. Follow the instructions on the screen to install the drivers.

7. After the drivers are installed, the wizard starts to find other hardware available in the system. The wizard will also search for the drivers of the *Standard PCI Graphics Adapter (VGA)*. Follow the instructions on the screen. When Windows prompts you to restart the computer, click **Yes**.

## Installing Intel 82810 VGA Driver for Windows 95/98

1. After you have installed Windows 95/98, install the Intel 82810 VGA driver. Insert the driver disk provided with the motherboard. Once it is inserted, the following screen appears.


2. Click **Intel M/B Drivers** and the following screen appears.

3. Click **Intel 82810 Drivers**, then **Intel 82810 VGA Driver**. When the Welcome screen appears, click **Next**.

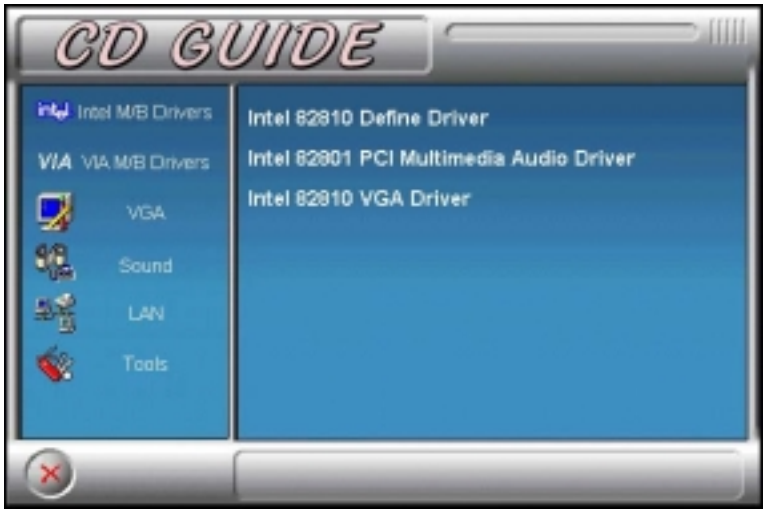

4. When the Choose Destination Location window appears, click **Next** to start copying of files. After the files are copies, restart your computer for changes to take effect.


## Installing Intel 82810 VGA Driver for Windows NT

1. After you have installed Windows NT, install the Intel 82810 VGA driver. Insert the driver disk provided with the motherboard. Once it is inserted, the following screen appears.


5. Click **Intel M/B Drivers** and the following screen appears.

6. Click **Intel 82810 Drivers**, then **Intel 82810 VGA Driver**. When the Welcome screen appears, click **Next**.




7. Click **Next** when the Welcome screen appears. Click **Yes** when the Software License Agreement screen appears. When the Choose Destination Location window appears, click **Next** to start copying of files. After the files are copies, restart your computer for changes to take effect.

## Installing Intel 82810 Audio Driver for Windows 95/98

The MI7WBM supports AC97 codec from Analog Device or Avance. Please follow the procedure below on how to install their respective drivers.

**For Analog Device AC97 Codec Audio Driver (CD Ver. 1.8)**
If the CD that comes with your motherboard is Ver. 1.8, complete steps 1-4. If the CD is Ver. 1.9, run the **setup.exe** file which is located in the directory **\Intel\i810\sound\AD1881** of the CD and the Welcome screen will appear. (Refer to step 3.)

1. After you have installed Windows 95/98, install the Intel 82810 audio driver. Insert the driver disk provided with the motherboard. Once it is inserted, the following screen appears.

2. Click **Intel M/B Drivers** and the following screen appears.


3. Click **Intel 82810 Drivers**, then **Intel 82810 PCI Multimedia Audio Driver**. When the Welcome screen appears, click **Next** to start copying files.

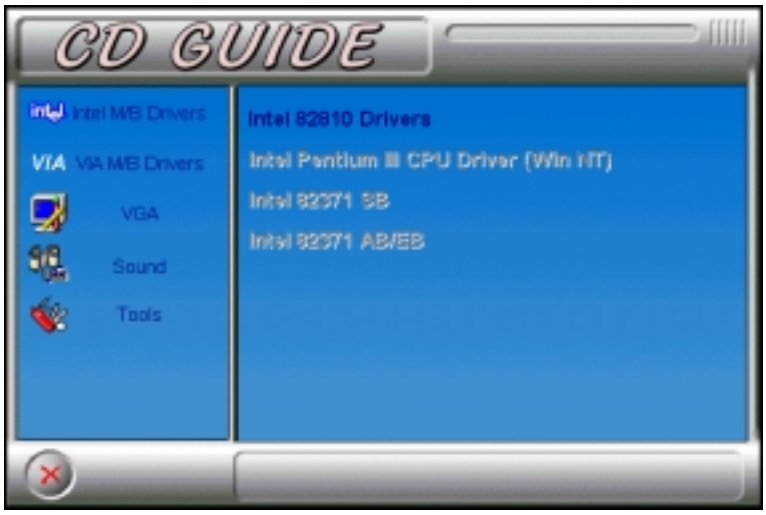

SoundMAX Install
ANALOG DEVICES

4. When file copying is done, click **Ok** to restart the computer and for changes to take effect. When the system reboots, the Add New Hardware Wizard screen appears and searches the driver for SoundMAX Integrated Digital Audio. Click **Next**, and follow the instructions on the screen. After the system automatically detects the location of the driver, click **Finish**.

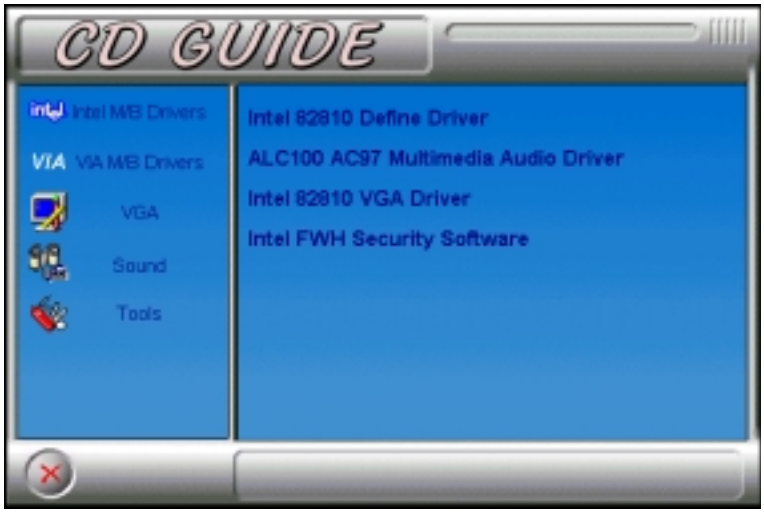

*With some CDROM device, you will be required to enable the digital CD audio for the CDROM device by clicking on its checkbox in order to play CD music. To see this checkbox, click Start → Control Panel → Multimedia Properties → CD Music.*

**For Avance ALC 100 AC97 Codec Audio Driver (CD Ver. 1.9)**

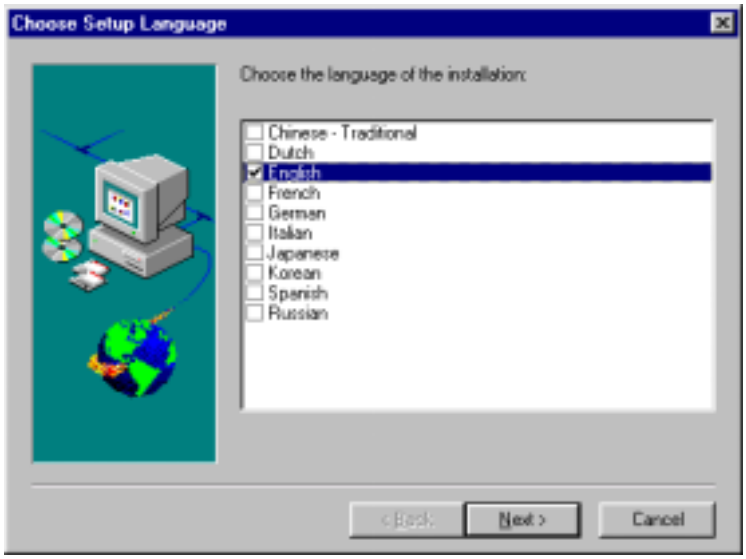
1. After you have installed Windows 95/98, install the Intel 82810(E) audio driver. Insert the driver disk provided with the motherboard. When the first screen appears, click **Intel M/B Drivers**, then **Intel 82810 Drivers**.



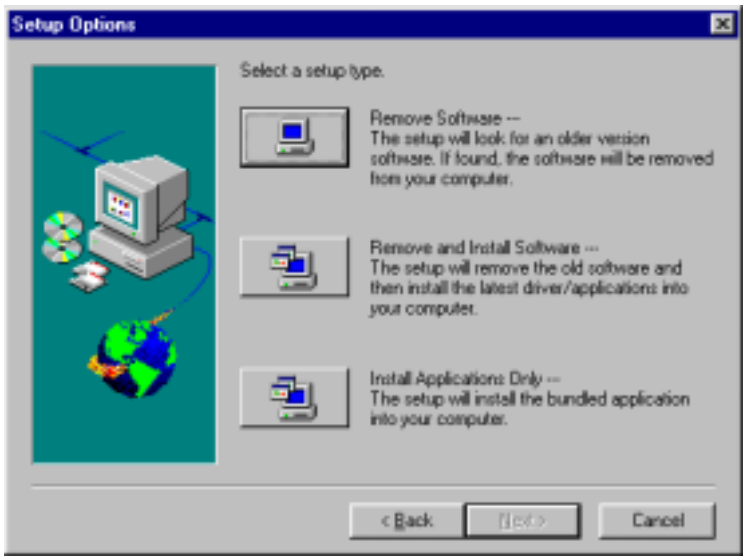

2. Click **ALC 100 AC97 Multimedia Audio Driver**.



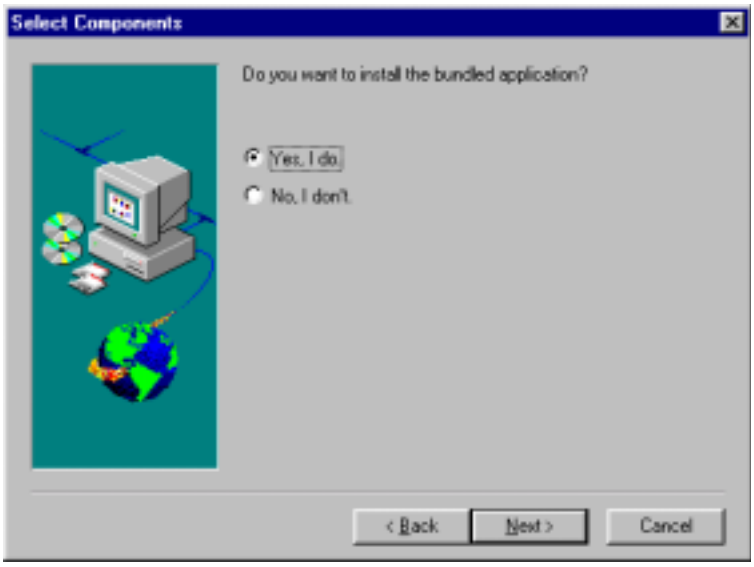
3. Choose the Setup Language and click **Next** to proceed. When the **Welcome** screen appears, click **Next** to continue Setup.



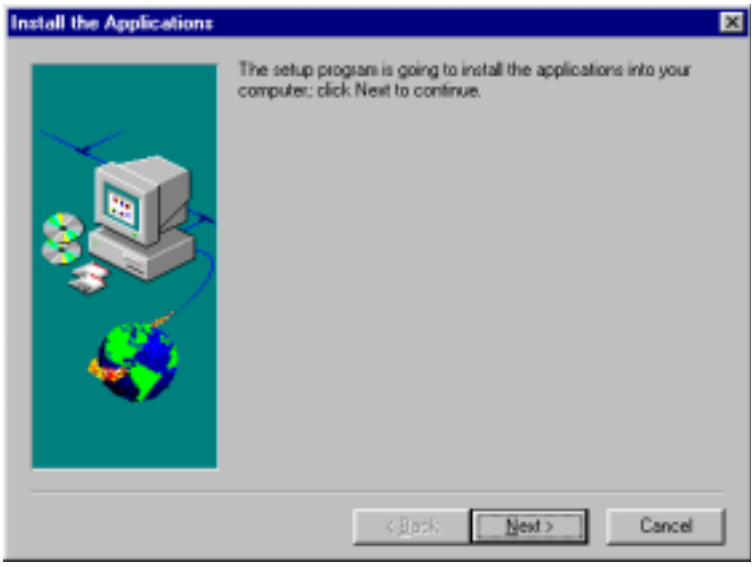

4. In the Setup Options window, click **Remove and Install Software**.



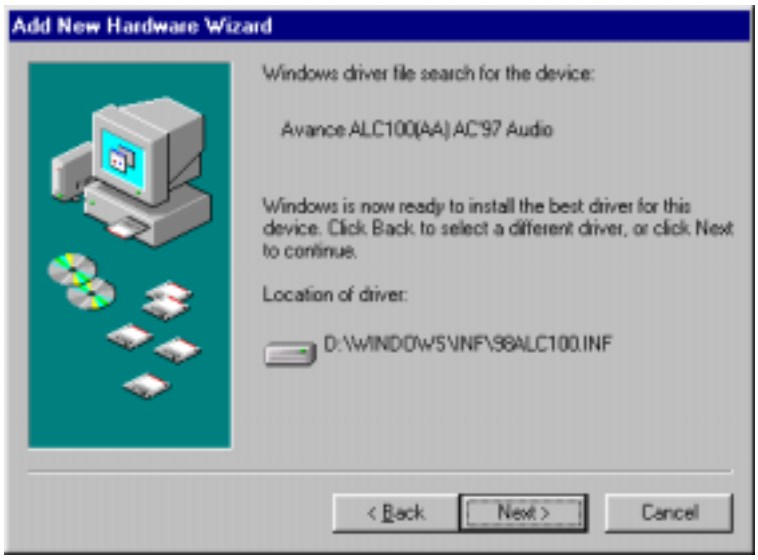
5. Click **Next** to install the bundled application



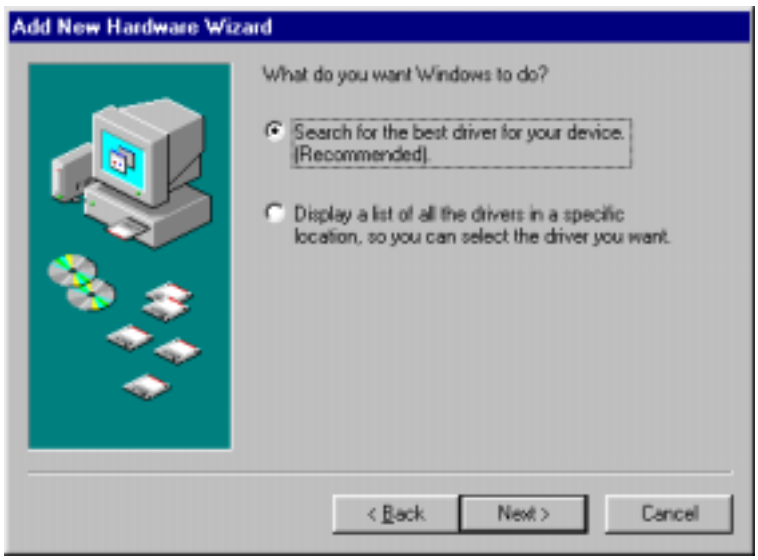

6. Follow the instructions to install the device drivers.



7. When the Add New Hardware Wizard appears, it will search the driver for Avance ALC100(AA) AC'97 Audio. Click **Next**.

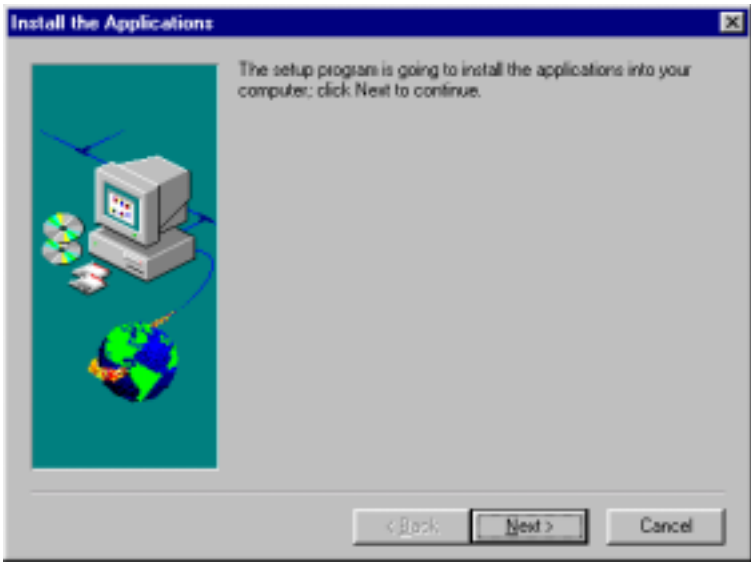



8. Click **Next** for Windows to search for the best driver for the device.

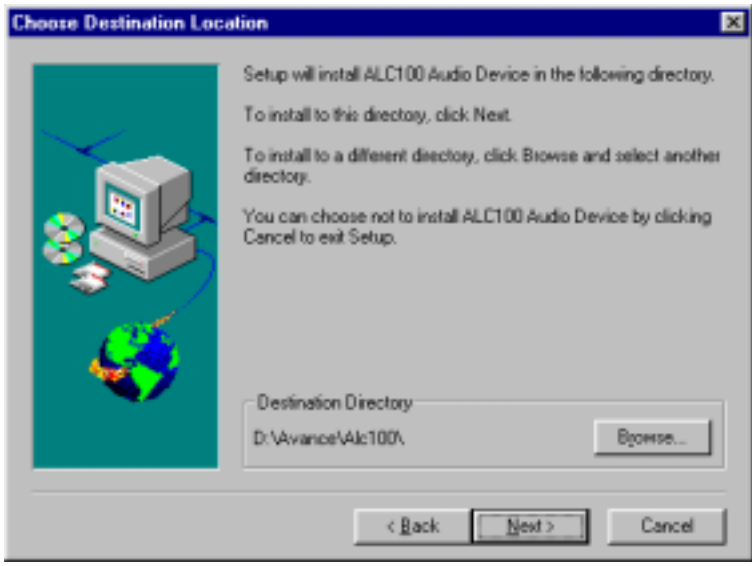


9. Click **Specify a location** and click **Browse**. The location of the driver in the CD ROM is **\intel\i810\sound\win98** (for Windows 98) or **\intel\i810\sound\win95** (for Windows 95). When the location has been input, click **Next**. After the driver has been installed, click **Finish**.

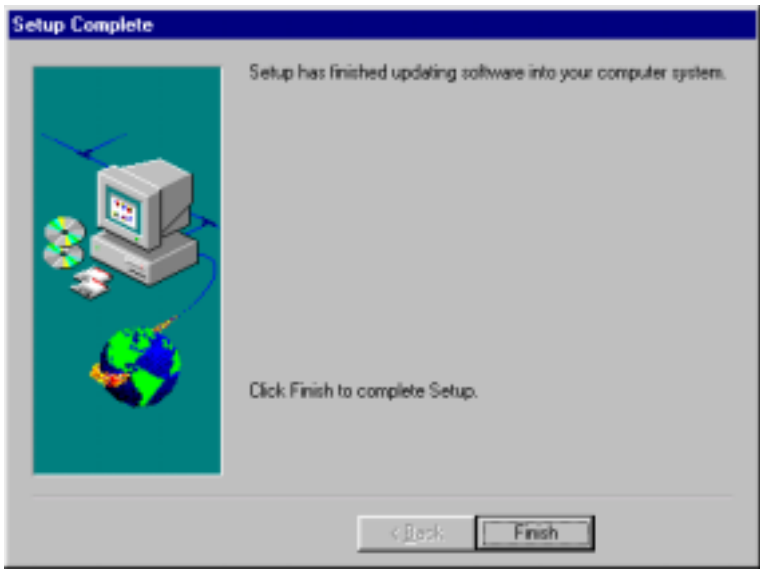

10. On the next screen, Setup is going to install applications. Click **Next**.



11. Choose the destination location of the files, then click **Next**.




12. When Setup has finished copying the file, click **Finish**.



## Installing Intel 82810 Audio Driver for Windows NT 4.0

**For Avance ALC 100 AC97 Codec Audio Driver**

The section below shows the steps in doing the manual installation of the ALC 100 device driver. Follow the steps carefully to complete the installation.

1. Click **Start → Settings → Control Panel → Multimedia → Devices**.
2. On the next screen, select **Unlisted or Updated Driver**. Now click **Add**.
3. Click **OK**.
4. Click **Browse**.
5. Enter the location of the drivers in the CD which is **\intel\i810\sound\winnt40**.
6. Click **OK**.
7. Click **OK**.
8. The **Avance ALC 100 AC'97 Audio Driver** dialog box will appear. Now click **OK** to finish the installation.

# Appendix

**Appendix and Errata**

The manufacturer sees to it that the most up-to-date and accurate information are contained in this manual. This section would contain page insert(s) of additional information, updates or corrections that the user should know to ensure that proper configuration and setup of the motherboard is made.